

## M E M O R A N D U M

DATE: March 26, 2004

TO: Jill O'Connor

FROM: Meghan Macias

SUBJECT: Santa Barbara Cottage Hospital Traffic Studies Peer Review

The following presents a peer-review of the traffic and parking analyses that have been prepared for the Santa Barbara Cottage Hospital. As directed by City staff, LSA's scope of work includes the preparation of a new traffic study. Therefore, LSA has reviewed these documents, paying special attention to the data and methods used to prepare the analysis. A recommendation of whether the data and analysis is adequate for use in the EIR Traffic Study is provided. If new data or a different method of analysis is warranted, a proposal to update the study is provided. The italic text throughout this memo represents tasks that will be completed by LSA and incorporated into the EIR traffic study.

**Traffic And Parking Study for the Santa Barbara Cottage Hospital Seismic Compliance and Modernization Plan, September 2003, prepared by Kaku Associates.**

## I. INTRODUCTION

This section provided an overview of the project objectives and construction phasing. It also presented the topics discussed in the study and introduced the reader to the organization of the report. The project description presented in this section provides a very general overview of the existing and proposed hospital facility with no quantitative comparison of existing and proposes uses, functions, staffing and patient capacity. Additional detail should be provided so that the reader can understand how the hospital will be changing with the proposed project (i.e. will more or fewer beds be provided. Will the space provided for specific services, such as emergency, outpatient surgery or intensive care be greater or less than the current facility? Will more medical office space be provided?). By providing additional detail, the project description would support assumptions made when calculating the parking or trip generation potential of the project. The description of the construction phases provided in this section was concise and helpful to understanding the long construction period.

*Prior to preparation of the traffic impact analysis, LSA will receive a new project description and site plan, and will confirm the construction phasing will be confirmed with the latest information provided by the applicant.*

## II. EXISTING CONDITIONS

This chapter described the data collection program and presented the existing traffic and parking conditions in the vicinity of the project. The data collected included the existing parking supply and demand, a survey of employee travel and parking characteristics, existing traffic counts, and a description of existing transit service.

- **Existing Parking Supply:** An exhaustive inventory of off-street and on-street parking within one block of the hospital campus was provided in this section. This information includes parking restrictions for on-street spaces.

*This information is detailed and provides good background information for use in the EIR traffic study*

- **Staff/Employee Survey and Customer Survey:** Kaku Associates conducted a survey of hospital staff and hospital customers to develop a profile of the travel and parking characteristics of staff, patients, visitors, and others who travel to and from the hospital. The profile included the mode of travel and auto occupancy, as well as arrival and departure times, travel origins and parking location. The Customer Survey also included a question to ascertain the purpose of the trip to the hospital (e.g., patient, visitor). The information collected during the survey does provide a picture of travel characteristics and can be used as background information in the EIR traffic study. This information could also be used by the hospital to help guide the design, and test the effectiveness of transportation demand management measures.
- **Parking Utilization Survey:** A survey of the number of occupied spaces in the on-site parking lots and along the streets was conducted for a 12-hour period on a single day. The results of this survey indicated that the on-site and off-street parking spaces are fully occupied between 9:00 a.m. and 4:00 p.m.

*The data from the parking utilization survey was collected on July 9, 2003, and is recent enough to be used by LSA in the parking analysis for the EIR traffic study.*

- **Existing Traffic Conditions:** This section included an inventory of the existing circulation system in the vicinity of the project. However, additional detail should be provided for each roadway so that the reader can get a better description of the roadways that are within the study area.

The identification of key roadways and intersections within the study area of the project was provided in this chapter.

*Based on discussions with City staff, the EIR traffic study will be the study area from the Kaku report, with one additional intersection (Junipero Street/Castillo Street) and 15 roadway segments. A description of the study area intersections and roadway segments will be included in the EIR traffic study.*

Existing traffic counts were conducted during the a.m. and p.m. peak hours for the study area intersections in July 2003.

***New traffic counts for the 22 study area intersections and 15 roadway segments that will be analyzed in the EIR traffic study were conducted in March 2004 and will be used in the analysis for the EIR traffic study.***

A description of the level of service (LOS) methodology was provided. The study utilized the Critical Movement Analysis (CMA) method to determine the intersection volume to capacity (v/c) ratio at the study area intersections. Existing levels of service were later re-analyzed using the ICU methodology. A summary of the levels of service with the ICU method is provided in a follow-up technical memorandum dated January 27, 2004.

***For purposes of the EIR traffic study, the intersection capacity utilization (ICU) methodology will be utilized to determine the v/c ratio at the study area intersections. A capacity of 1,600 vehicles per hour per lane and 10 percent Loss Time will be used to calculate the LOS of signalized intersections. LOS at unsignalized intersections will be calculated using the Highway Capacity Manual (HCM).***

- **Existing Public Transit Service:** The section provided a brief description of the public transportation services within the project site.

***This information will be confirmed with the Santa Barbara Metropolitan Transit District and will be updated in the EIR traffic study.***

### III. PARKING DEMAND ANALYSIS

This chapter described the methodology that was used to forecast the parking demand for the hospital. The existing peak parking demand was estimated using the parking characteristics of each type of hospital patron and the estimated number of staff, patients, visitors, and other types of patrons at the hospital during the peak period. The estimated peak parking demand was compared to the demand observed during the parking accumulation surveys and was found to be within 3 percent of the actual parking demand. As a result, it appears that the operational method of forecasting parking demand is reasonably accurate. However, the steps should have been more clearly explained in the text of the study. For example, Table 7 uses a parking demand factor to estimate the peak parking demand. More explanation of the source of the parking demand factor could have been provided in a footnote.

***Because parking rates for hospital land uses are generally based on the number of beds, and the number of beds may be decreasing with the project, an operational approach to the trip generation, similar to that employed in the Kaku Study, is proposed by LSA for the EIR traffic study.***

### IV. TRAFFIC FORECAST METHODOLOGY

This chapter described the methodology that was used to determine the hospital trip generation. The trip generation was estimated by conducting traffic counts at each parking lot driveway on the Cottage Hospital site. The traffic counts were adjusted based on the staff and visitor percentages from the Staff/Employee and Customer Survey data. The data were compared to the operating components to develop traffic generation factors for each type of hospital trip (i.e., employee, physician, visitors).

*For purposes of the EIR traffic study, LSA recommends utilizing a land use based approach to determine the trip generation of the proposed expansion. With the project description of the proposed expansion, LSA will determine the net increase/decrease in trip generating land use at the hospital site. The trip generation for the increase/decrease in land use will be determined based on trip rates from the Institute of Transportation Engineers (ITE) Trip Generation manual, 7<sup>th</sup> Edition (2003). The land use based trip generation will be compared to the trip generation methodology referenced in the July 2003 study to validate the results.*

## V. ANALYSIS OF BASE ASSUMPTIONS

The hospital is currently operating at less than capacity. To represent the potential traffic and parking demand that could be experienced without implementation of the project, Kaku developed trip generation and parking estimates for this potential activity level. This scenario is referred to as the Baseline Assumption. It does not appear that this scenario was used to assess the project impact, simply to provide a comparison of the project trip generation to the potential trip generation in the existing condition.

*To satisfy CEQA requirements, the EIR traffic study will assess all project impacts in relation to the actual existing conditions (i.e., a "ground-to-plan" comparison), rather than a "plan-to-plan" comparison.*

## VI. FUTURE CONDITIONS

This chapter provided the future (year 2013) operating conditions after the completion of the proposed master plan. A discussion of the anticipated changes in the hospital's operation is provided. These changes were used to determine the future trip generation and parking demand. A cumulative baseline traffic condition was developed by adding a 1 percent per year growth factor (10 percent total), and traffic generated by development projects within or in the vicinity of the study area to the existing traffic counts.

*To accurately represent the cumulative projects, LSA will request an updated list of approved/pending (cumulative) projects in the vicinity of the study area and will generate trips for the cumulative projects using trip rates from the ITE Trip Generation, 7th Edition. If a cumulative project generates fewer than 10 peak-hour trips, the cumulative project is assumed to be included in the ambient growth factor. Projects generating more than 10 peak hour trips will be distributed through the circulation system based on logical travel corridors and minimum time paths.*

- **Project Trip Distribution and Assignment:** Trip distribution for the hospital was developed based on the zip codes of the Staff Surveys, locations of existing and future campus access points and parking lots, and existing traffic volumes.

*For purposes of the EIR traffic study, LSA will use the regional trip distribution from the Kaku study.*

The project trip assignment to the local street system required a series of steps to reflect all the changes in traffic patterns that would result with the implementation of the Master Plan.

*For purposes of the EIR traffic study, LSA will follow a similar approach to that presented in the Kaku study. First, existing hospital traffic will be removed, then future hospital traffic will be added to the Cumulative Baseline. The local trip distribution will consider the proposed closure of Castillo Street and the locations of parking facilities.*

## VII. ANALYSIS OF FUTURE CONDITIONS

This section provided an analysis of the future parking requirements and the traffic impact analysis at the study area intersections. The significance criteria for project impact were provided for signalized and unsignalized intersections.

*For purposes of the EIR traffic study, the significance criteria will reflect the ICU and HCM methodology, and will be mentioned earlier in the report in the discussion of LOS methodologies.*

- **Analysis of Proposed Closure of Castillo Street:** An assessment of the conditions before the proposed closure of Castillo Street was provided in this section. The assessment included an analysis of the operating conditions at seven study area intersections and the level of pedestrian activity on the street.

Pedestrian volumes were counted on Castillo Street on August 28, 2003, between 10:00 a.m. and 6:00 p.m. were used to determine the level of activity between Pueblo Street and Junipero Street.

*The Kaku study does not describe how existing and project traffic was redistributed with the Castillo Street closure. Therefore, for the EIR traffic study, LSA will use the results of the September 1992 ATE study that presents the percent of traffic that is being diverted to the surrounding streets. The ATE study is peer-reviewed later in this memo. LSA will redistribute the existing traffic volumes collected on Castillo Street, Pueblo Street, and Junipero Street based on the traffic diversion experienced during the ATE study. New pedestrian and bicycle counts will be conducted along Castillo Street for a two-day period between 7:00 a.m. and 7:00 p.m. (12-hour period). The data will provide a better understanding of the pedestrian/bicycle activity along Castillo Street and will be used to measure the impact of the Castillo Street closure on bicycles and pedestrians.*

### **Traffic and Circulation Study for the Castillo Street Closure, September 2, 1992, Prepared by Associated Transportation Engineers.**

This study provided an analysis of the traffic and circulation impacts associated with the proposed closure of the 2300 block of Castillo Street between Junipero Street and Pueblo Street. Also included are potential impacts of the closure on pedestrian and bicycle traffic flow along Castillo Street. To evaluate the potential traffic and circulation impacts associated with the proposed closure of Castillo Street, a "temporary closure" of the street was conducted.

Existing daily and peak-hour traffic volumes were collected before and during the temporary closure of Castillo Street. In addition, pedestrian and bicycle counts were collected along Castillo Street between Junipero Street and Pueblo Street during the a.m. and p.m. peak hours. The traffic volumes

collected before the closure were compared to the volumes collected during the closure to determine the percent change in traffic along the adjacent roadways.

*The methodology and approach in this study is adequate and will be used to support the EIR traffic study. LSA will apply the percent diversion of traffic observed during the temporary closure of Castillo Street to the existing traffic counts conducted in March 2004. The resulting change in vehicular and pedestrian traffic will be discussed in the EIR traffic study.*

#### **Preliminary Trip Generation and Parking Demand Analysis for the Cottage Hospital Master Plan, January 28, 2003, prepared by Associated Transportation Engineers.**

A preliminary trip generation and parking demand analysis was conducted for the Cottage Hospital Master Plan. The study presented preliminary estimates of the project's trip and parking generation. The trip generation estimates were calculated based on the net increase of occupied beds. The trip rates used were referenced from the Institute of Transportation Engineers (ITE) *Trip Generation* manual.

Existing parking demand at the hospital was determined based on hourly parking accumulation surveys conducted in October 2000. Based on the surveys, the existing parking demand at the hospital is 859 parking spaces. In comparison, the existing parking demand in the Kaku study (July 2003) is 1,209 parking spaces, 347 parking spaces more than the ATE study. Future parking demands for the hospital were estimated using future patient, employee, and visitor data obtained from the hospital.

The trip generation estimates were calculated based on the net increase of occupied beds and forecasts an increase of approximately 447 daily trips, 41 a.m. peak-hour trips, and 46 p.m. peak-hour trips. In comparison, the trip generation estimates in the Kaku study were calculated for each type of hospital trip (i.e., employees, physicians, visitors) and is estimated to be less than the existing trip generation at the hospital. Therefore, a negative trip generation was forecast with the implementation of the proposed project in the Kaku study.

*The methodology used in the ATE study to determine the trip generation is similar to the approach that LSA will be using in the EIR traffic study. LSA will use a land use-based methodology to determine trip generation for the proposed project. However, the project description may have changed from the previous study. Therefore, LSA will determine the net increase in land use based on the new project description.*

#### **Conclusions**

The traffic studies previously prepared for the Cottage Hospital project each contain some data and analysis that can be used in the preparation of the EIR traffic study. As stated previously, LSA's scope of work includes the preparation of a new traffic impact analysis. A memo was prepared on March 4, 2004, outlining the data from the Kaku study and the two ATE studies that LSA proposes to use. This memo is attached for your information. I would appreciate any input that City staff has into the validity of the methods proposed for the EIR traffic study.

Attachment: March 4, 2004, memo

## M E M O R A N D U M

DATE: March 4, 2004

TO: Rob Dayton, City of Santa Barbara  
Susan McLaughlin, City of Santa Barbara

FROM: Meghan Macias, LSA Associates, Inc.

SUBJECT: Cottage Hospital Traffic Data

Based on our meeting on Friday, February 27, 2004 and review of the traffic analyses prepared to date for the Cottage Hospital expansion project, LSA proposes to use the following data for preparation of the Traffic Impact Analysis.

Existing Traffic Counts - As directed by the City, new existing traffic counts will be collected at 22 intersections and 15 roadway segments. Twenty-one of the intersections were previously counted in July 2003. However, as we discussed at our meeting on February 27, traffic counts during the summertime may be lower because local schools and the University of California, Santa Barbara are not in session. New traffic counts are scheduled to begin the week of March 8.

As I mentioned at the meeting, LSA's scope of work includes a budget allowance to obtain existing traffic counts at up to 10 intersections. The budget also includes additional surveys of trip generation, pedestrians, and parking accumulation. However, these surveys have been completed as part of the previous traffic analyses. Therefore, LSA proposes to use the budget allowance for supplementary surveys for the additional 12 intersection and 15 roadway segment counts. Following is the data that LSA proposes to use from the previous studies.

Diversion of Traffic after Castillo Street Closure - As stated in our scope of work, LSA will use the results of the *Draft Traffic and Circulation Study for the Castillo Street Closure*, prepared in September 1992 by Associated Transportation Engineers, to analyze the impacts of the Castillo Street closure on neighborhood traffic. Specifically, the observed percent change with the closure will be used to divert traffic to the surrounding streets.

Pedestrian Counts - Kaku Associates collected pedestrian traffic counts on Castillo Street on August 28, 2003 between the hours of 10:00 a.m. and 6:00 p.m.. This data is included in the *Traffic and Parking Study for the Santa Barbara Cottage Hospital Seismic Compliance and Modernization Plan*, prepared by Kaku Associates in September 2003 (the Kaku report). This data will be used to analyze the impact of the Castillo Street closure on pedestrian traffic.

Trip Generation Surveys - The Kaku report contains 24-hour machine counts that were collected on July 29 and July 30, 2003 at five of the surface parking lots and at the parking structure on Pueblo Street. This data may be used to verify the existing trip generation and validate a land use or operational trip generation estimate for the hospital. As we discussed, once a refined project

description is received from the project applicant, LSA will propose a trip generation methodology for the project.

Parking Accumulation Surveys - Kaku Associates collected parking accumulation surveys for each parking lot, including the parking structure, and all on-street parking within a block of Cottage Hospital on July 9, 2003 from 7:00 a.m. to 7:00 p.m. Additionally, Associated Transportation Engineers collected parking accumulation surveys at the parking lots on October 24 and October 26, 2000 between 9:00 a.m. and 4:00 pm. A review of the two surveys indicates that utilization of the parking system had not significantly changed between the time the two surveys were conducted. However, since the Kaku survey shows a higher parking accumulation and therefore would present a more conservative scenario, LSA proposes to use the parking accumulation data from the Kaku report.

Please let me know if you have any concerns about using any of the above-mentioned data for the traffic analysis currently being prepared. If you would like to discuss this issue further, please contact me at (949) 553-0666.



**TRAFFIC AND PARKING STUDY  
FOR THE  
SANTA BARBARA COTTAGE HOSPITAL  
SEISMIC COMPLIANCE AND MODERNIZATION PLAN**

SEPTEMBER 2003

PREPARED FOR  
**SANTA BARBARA COTTAGE HOSPITAL**

PREPARED BY

**KAKU ASSOCIATES**  
A Corporation

**TRAFFIC AND PARKING STUDY  
FOR THE  
SANTA BARBARA COTTAGE HOSPITAL  
SEISMIC COMPLIANCE AND MODERNIZATION PLAN**

September 2003

Prepared for:

**SANTA BARBARA COTTAGE HOSPITAL**

Prepared by:

**KAKU ASSOCIATES, INC.**  
1453 Third Street, Suite 400  
Santa Monica, California 90401  
(310) 458-9916

Ref: 1651

## TABLE OF CONTENTS

I.	Introduction .....	1
	Project Description .....	1
	Study Scope .....	5
	Organization of Report .....	5
II.	Existing Conditions .....	7
	Existing Parking Supply .....	7
	Condition of Existing Parking System .....	13
	Existing Traffic Conditions .....	25
	Existing Public Transit Service .....	31
III.	Parking Demand Analysis .....	36
	Operational Components .....	36
	Parking Demand Forecasting Methodology .....	37
	Validation of the Parking Demand Forecasting Methodology .....	40
IV.	Traffic Forecasting Methodology .....	43
	Hospital Driveway Counts .....	43
	Estimating Hospital Trip Generation .....	45
	Development of Trip Generation Methodology .....	47
V.	Analysis of Base Conditions .....	49
	Baseline Operating Assumptions .....	49
	Parking Demand and Traffic Generation for Baseline .....	51
	Analysis of Baseline Assumptions .....	51
	Impact of Baseline Assumption .....	55
VI.	Future Conditions .....	60
	Future Hospital Operating Conditions – 2013 .....	60
	Future Parking Demand – 2013 .....	60
	Future Traffic Projections – 2013 .....	63
	Project Trip Generation .....	68
VII.	Analysis of Future Conditions .....	75
	Analysis of Future Parking Requirements .....	75
	Traffic Impact Analysis .....	75
	Analysis of Proposed Closure of Castillo Street .....	81
VIII.	Mitigation Measures .....	88
IX.	Summary and Conclusions .....	89

- Appendix A: Parking User Survey Information
- Appendix B: Intersection Lane Configurations
- Appendix C: Traffic Count Sheets
- Appendix D: Driveway Count Sheets
- Appendix E: Pedestrian Count Sheets
- Appendix F: Intersection Level of Service Worksheets (under separate cover)

## LIST OF FIGURES

### NO.

1	Project Site Location .....	2
2	Project Site Plan .....	4
3	Off-Street Parking Lots .....	9
4	On-Street Parking Spaces .....	12
5	Employee Survey Questionnaire .....	15
6	Customer Survey Questionnaire .....	18
7	Parking Utilization of Off-Street Spaces .....	23
8	Parking Utilization of On-Street Spaces .....	24
9	Intersections to be Analyzed .....	27
10	Hourly Traffic Entering and Exiting Hospital Campus – July 29, 2003 .....	29
11	Hourly Traffic Entering and Exiting Hospital Campus – July 30, 2003 .....	30
12	Traffic Volumes Reflecting Baseline Assumptions .....	56
13	Locations of Cumulative Projects .....	67
14	Cumulative Base Traffic Projections .....	69
15	Trip Distribution Pattern .....	72
16	Future Project Traffic – 2013 .....	73
17	Cumulative Plus Project Traffic – 2013 .....	74
18	Peak Hour Traffic Volumes Before Castillo Street Closure (Existing Conditions) .....	83
19	Peak Hour Traffic Volumes After Castillo Street Closure (Cumulative Plus Project Conditions) .....	86

## LIST OF TABLES

### NO.

1	Parking Supply Inventory.....	10
2	Parking Utilization of Cottage Hospital Parking System .....	21
3	Level of Service Definitions for Signalized Intersections .....	26
4	Level of Service Standards for Unsignalized Intersections (Two-Way Stop-Controlled and All-Way Stop-Controlled Intersections) .....	32
5	Intersection Level of Service Analysis – Existing Project Conditions.....	33
6	Operational Components – Existing Conditions .....	38
7	Parking Demand Estimate Based on Operational Components .....	39
8	Existing Parking Utilization .....	41
9	Existing Traffic Volumes Into and Out of SBCH Campus.....	44
10	Existing Traffic Volumes Into and Out of Study Area .....	46
11	Traffic Generation Model for Cottage Hospital .....	48
12	Operational Components – Baseline Operating Assumptions .....	50
13	Parking Demand for Baseline Assumptions .....	52
14	Traffic Generation Estimate for Baseline Assumptions .....	53
15	Parking Requirements for Baseline Assumptions .....	54
16	Intersection Level of Service Analysis – Results of Traffic Impact Analysis for Baseline Assumptions .....	57
17	Operational Components – Future Conditions with Completion of Master Plan (2013).....	61
18	Future Parking Demand (2013).....	62
19	Trip Generation Estimates for Related Projects .....	64
20	Future Traffic Projections for Proposed Project .....	70
21	Future Parking Requirements (2013).....	76
22	Planned Parking Supply for SBCH.....	77
23	Intersection Level of Service Analysis – Existing, Cumulative Base and Cumulative Plus Project Conditions .....	79
24	Existing Pedestrian Volumes on Castillo Street.....	84

## I. INTRODUCTION

This report documents the results of a parking and traffic study conducted by Kaku Associates, Inc. for the Santa Barbara Cottage Hospital (SBCH) Seismic Compliance and Modernization Plan. This study includes a detailed assessment of existing conditions and base assumptions as well as an analysis of future parking and traffic conditions. The assessment of existing conditions is based on data collected at and near the project site in June and July 2003 and represents the current capacity of the hospital. The future parking conditions are based on the projected SBCH master plan as provided by Santa Barbara Cottage Hospital and by project architects, Lee, Burkhart, Liu, Inc. This document includes a description of the assumptions and methods used to conduct each element of the study, including a discussion of the results.

## PROJECT DESCRIPTION

Santa Barbara Cottage Hospital is the primary acute care medical facility serving Santa Barbara and the South Coast region since 1888. It provides inpatient, outpatient, surgical, and emergency, as well as other specialized health care services such as pediatric and adult oncology, high-risk obstetrics and neo-natal intensive care, a medical staff teaching facility, and Level-2 trauma care. As illustrated in Figure 1, the main hospital building occupies the entire block bounded by Bath Street on the east, Junipero Street on the north, Pueblo Street on the south, and Castillo Street on the west. It is located in the mixed-use Oak Park neighborhood with commercial, medical, and office buildings, and single and multiple family dwellings. The main entrance to the hospital is on Bath Street, with other access points provided on Pueblo and Castillo Streets. The Eye Care Center and the hospital emergency room can be accessed from Junipero and Bath Streets.

The proposed project involves the replacement and modernization of existing uses and facilities at Santa Barbara Cottage Hospital. The master plan for the replacement and modernization of the hospital envisions a series of improvements to comply with the Senate Bill 1953, Alquist Hospital

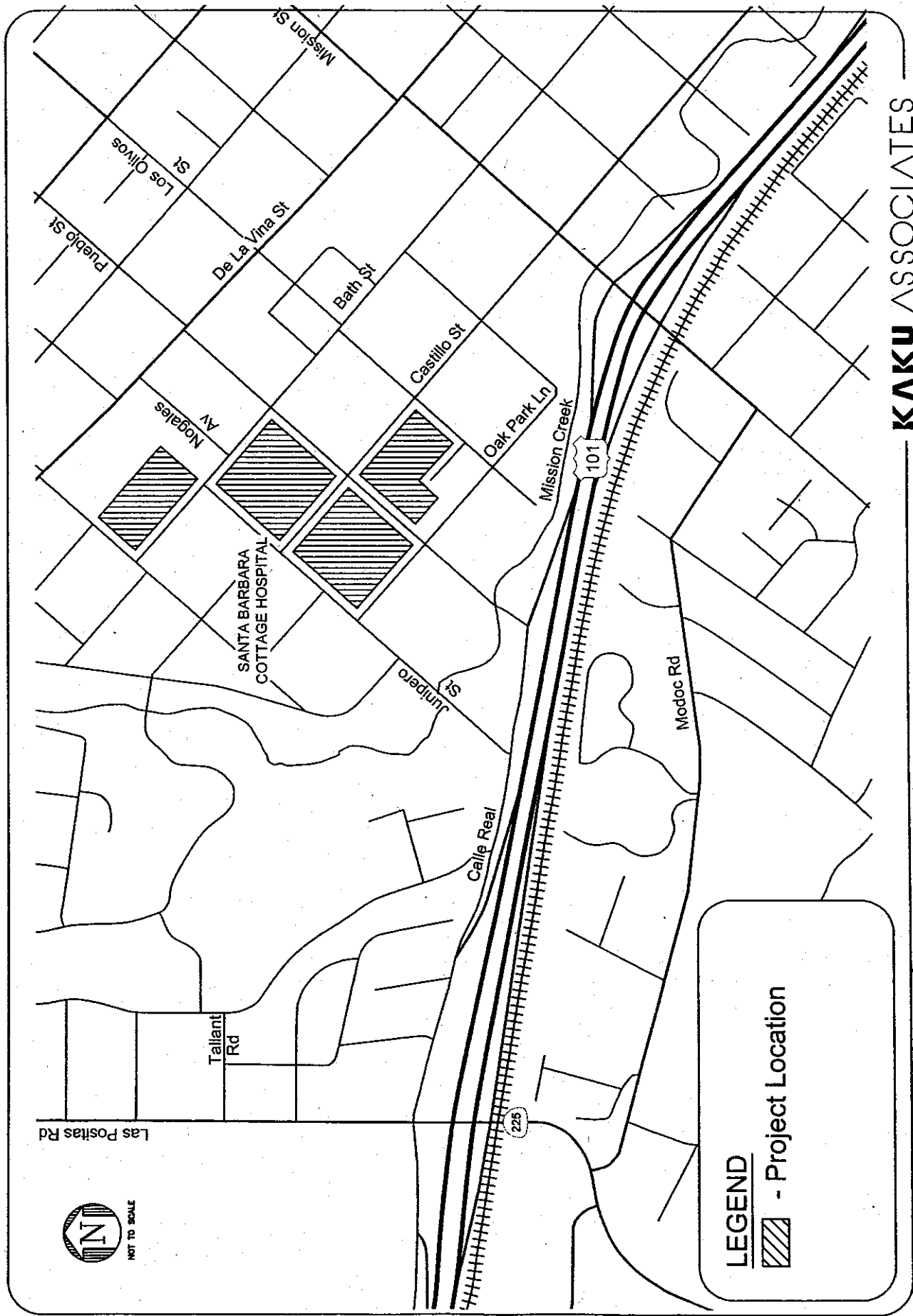


FIGURE 1  
PROJECT SITE LOCATION

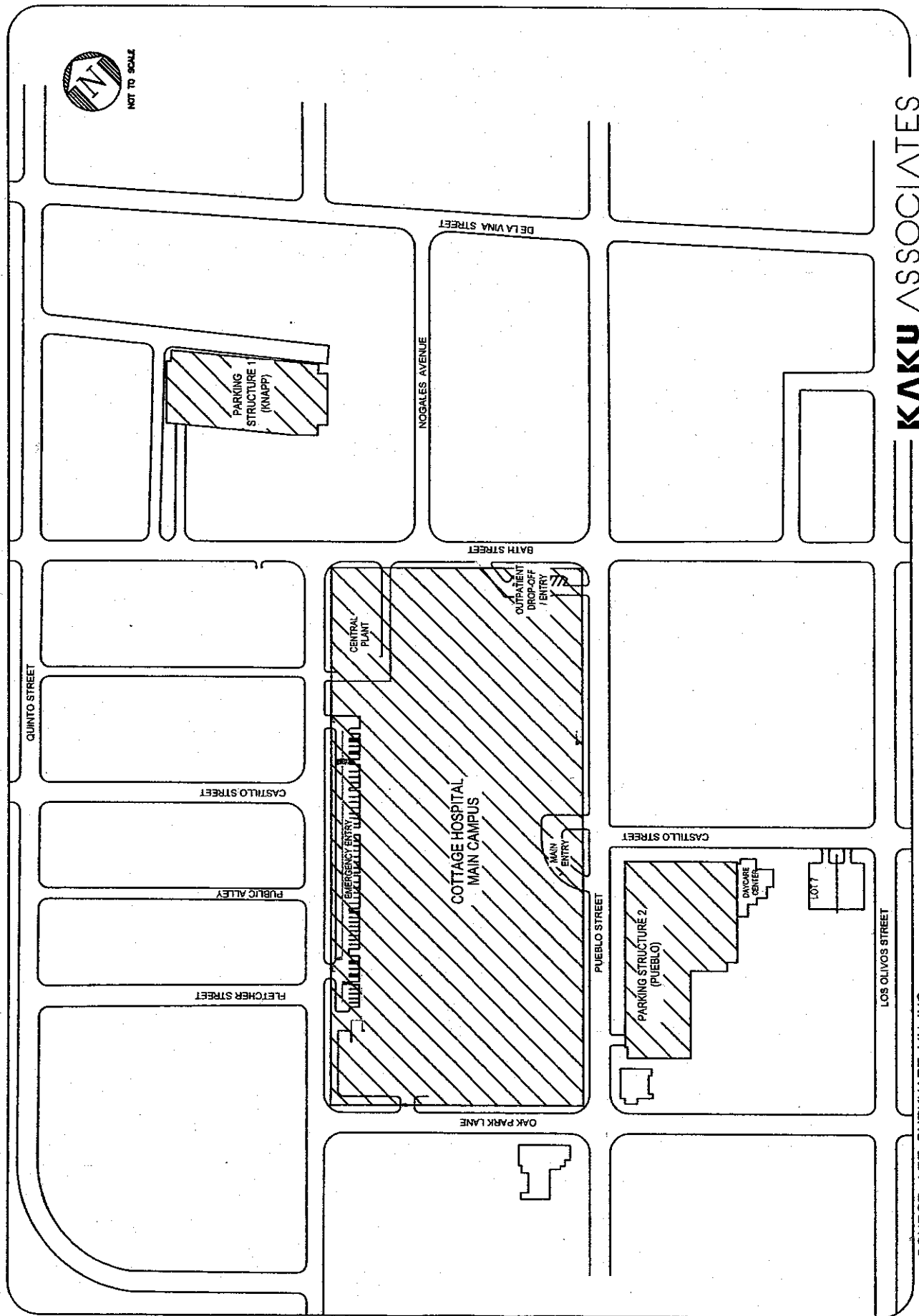


Seismic Safety Act, which requires the retrofit and/or upgrade of all acute care medical facilities in the State to more stringent seismic standards by 2013 if the facility chooses to rebuild.

The demolition, construction, and remodeling of the existing hospital facilities would be undertaken in a number of phases from 2004 through 2013 in a manner that would enable the hospital to continue to provide all medical services to the community. Details of the various construction phases are as follows:

- Phase 1A: demolish the existing Eye Center located at the corner of Junipero and Bath Streets to make room for the new Central Services Plant.
- Phase 1B: demolish all structures located within the footprint of the proposed Pueblo Parking Structure and new childcare center.
- Phase 2A: construct the new parking structures at the corner of Pueblo and Castillo Streets and the Knapp. In addition, construct the new childcare center.
- Phase 2B: construct the new Central Plant.
- Phase 3: demolish the west block of the existing parking structure and adjacent Central Services Plant from Oak Park Lane to Castillo Street. Abandon and demolish Castillo Street between Pueblo and Junipero Streets.
- Phase 4 & 4A: construct new nursing pavilions, a diagnostic and treatment building, and helipad. Remodel a portion of the Centennial Wing and East Wing and transfer the acute and intensive care patient beds to the new nursing pavilions facing Pueblo Street.
- Phase 5A & 5B: transfer the services from the West Wing, Central Wing, Reeves Wing, and North Wing to the new nursing pavilions and demolish these portions of the hospital. The East Wing, Building K and the South Wing, and the Centennial Wing would remain.
- Phase 6: construct an additional nursing pavilion on Pueblo Street and construct the remainder of the diagnostic and treatment building partially built in Phase 4. Construct a new plaza and new main entry for the hospital.
- Phase 8: remodel the interior of the remaining portion of the East Wing, South Wing, and Buildings G and K to house hospital administrative and other non-acute care hospital functions.

The new hospital facility would span two blocks from Oak Park Lane to Bath Street. Figure 2, which provides an illustration of the proposed master plan, indicates that the plan includes the proposed abandonment of the portion of Castillo Street between Pueblo and Junipero Streets to accommodate the new medical facility construction. Additionally, the Plan includes the construction of two new parking structures, one located behind the Knapp Building and a second



SOURCE: LEE, BURKHART, LIU, INC.

FIGURE 2  
PROJECT SITE PLAN

parking structure located southwest of the intersection of Pueblo and Castillo Streets. These are also illustrated in Figure 2. The proposed closure of Castillo Street would result in the redirection of the main entrance of the hospital to the intersection of Castillo Street and Pueblo Street. General hospital traffic would then be directed to Parking Structure 1 via Bath Street and Parking Structure 2 via Pueblo and Castillo Street. The hospital also proposes to reduce the number of licensed beds at the hospital from its current level of 456 licensed beds to 337 licensed beds after completion of the project.

## **STUDY SCOPE**

The scope for this study, which was developed in conjunction with the City of Santa Barbara, was directed at the development of data that would be used to verify existing conditions and be the basis for the preparation of future parking and traffic demand projections for the hospital after completion of the master plan. The first step included a detailed assessment of current conditions to determine parking demand and trip generation characteristics of the Santa Barbara Cottage Hospital. The data used to conduct the analysis of existing conditions was used to develop planning parameters that establish the relationship between the hospital facilities, activities, and census data with parking characteristics and traffic flow. These relationships were used to estimate the impact of the base assumptions on the traffic and parking conditions for the hospital. The relationships were also used to forecast the parking demands and trip generation for future conditions after completion of the master plan. These forecasts of future parking and traffic demands were used to identify the future parking and circulation needs and potential impacts of these future conditions within a Year 2013 timeframe for the hospital.

## **ORGANIZATION OF REPORT**

This report is divided into nine chapters. Chapter II describes the existing conditions within and around the project site including the existing site access, the parking system serving the hospital, and operating conditions of the streets and intersections within the study area. The development of the methodology used to prepare parking demand estimates for the hospital after completion of the project is included in Chapter III. The development of the methodology used to estimate future trip generation at the hospital is discussed in Chapter IV. The concept of the Base

Assumption and its effect on parking requirements and its traffic impact on the local street system is described in Chapter V. The development of the future conditions is described in Chapter VI. This chapter includes a discussion of the development of the future conditions without and with the proposed project and compares them to the possible conditions under the Base Assumptions. Chapter VII assesses the future parking needs and analyzes the potential traffic impacts of the project on the local street system. Chapter VIII addresses mitigation measures. A summary of the analyses and study conclusions is included in Chapter IX.

## **II. EXISTING CONDITIONS**

This chapter presents the results of the assessment of existing conditions for the proposed project, the master plan for the replacement and modernization of the hospital. This includes an analysis of the parking system, access to and from the hospital, and traffic/circulation conditions in the vicinity of the Santa Barbara Cottage Hospital campus. The assessment is intended to establish a description of the current operating conditions at the hospital and the remainder of the study area. The data from this analysis was then used to develop the planning and design parameters used in the preparation of the future forecasts for the SBCH master plan.

This analysis is based on a data collection program for the study area that included information from a variety of sources that were used to describe the existing parking and circulation system that serve the hospital. The data collection program included a number of inventories of the parking supply and street system, parking surveys, traffic counts, and field observations.

### **EXISTING PARKING SUPPLY**

An inventory was taken on July 9, 2003 to determine the extent of the currently available parking supply for the SBCH campus. Off-street parking for employees, patients, and visitors is provided through a combination of seven off-street parking lots and a multilevel parking structure. Parking is also provided in lots at the entrances to the Emergency Room, the Eye Care Center, the Reeves entrance, the MRI, the Infant Day Care, and the Child Care Center lots. On-street parking spaces are also available along most of the streets surrounding the hospital campus. The spaces included in the inventory for the hospital were those within one block of the hospital on the following streets: Bath Street, Castillo Street, Pueblo Street, Junipero Street, Nogales Street, Oak Park Lane, and Fletcher Avenue.

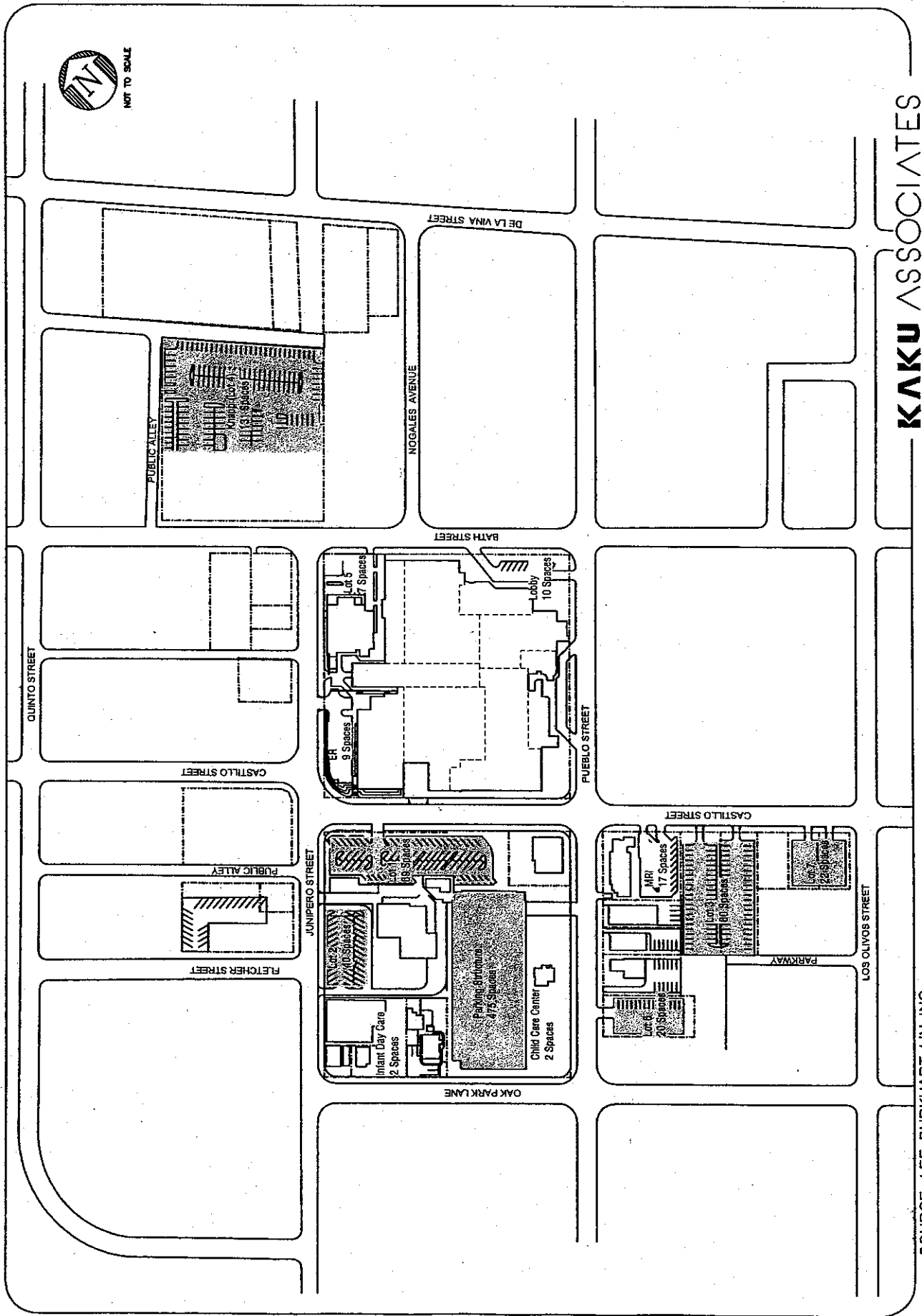
## Off-Street Parking Supply

Figure 3 illustrates the location of the various off-street parking facilities available for use by the hospital. As indicated in Table 1, there are a total of 888 off-street parking spaces available in 14 separate facilities on the SBCH campus. Of these, over half, 475 spaces, are located in the parking structure located on Pueblo Street between Oak Park Lane and Castillo Street. The second largest facility is Lot 4, the Knapp lot that provides a total of 131 spaces. The remainder of the parking supply is distributed over the other 12 facilities that vary in size from 80 spaces (Lot 3, on Castillo Street between Junipero Street and Pueblo Street) to two spaces (Infant Day Care lot and Child Care Center lot).

Of the total 88 spaces, 601 are dedicated for use by employees only, 99 are dedicated for use by patients and visitors only, and 188 are available for shared use among employees, patients, and visitors.

A description of the various parking facilities is as follows:

1. Hospital Parking Lot #1 - This lot is located at the southwest corner of the Castillo Street and Junipero Street intersection. This lot contains 69 spaces that can be used by visitors, patients, and vendors.
2. Hospital Parking Lot #2 - This lot is located on the south side of Junipero Street, just west of Lot #1. This lot contains 40 spaces that can be used by visitors and employees.
3. Hospital Parking Lot #3 - This lot is located on the west side of Castillo Street between Pueblo Street and Los Olivos Street. This gated lot contains 80 parking spaces that can be used by employees and auxiliary volunteers.
4. Hospital Parking Lot #4 - This is also known as the Knapp Building lot. It contains a total of 166 spaces, of which 35 are reserved for the Rehabilitation Institute visitor and employee parking. It is located behind Bath Street between Nogales Street on the south and Quinto Street on the north. Visitors, patients, and employees of the hospital can use the remaining 131 spaces.
5. Hospital Parking Lot #5 - This seven-space parking lot is located on the northwest corner of Junipero Street and Bath Street adjacent to the Eye Center. Visitors and patients can use these spaces.
6. Hospital Parking Lot #6 - This gated lot contains 20 employee parking spaces. The lot is located on the south side of Pueblo Street just east of Oak Park Lane.



**KAKU ASSOCIATES**

SOURCE: LEE, BURKHART, LIU, INC.

**FIGURE 3**  
**OFF-STREET PARKING LOTS**

**TABLE 1  
PARKING SUPPLY INVENTORY**

<b>Hospital Parking</b>	<b>Location</b>	<b>Designated Use</b>	<b>No. of Spaces</b>
Parking Structure	On Pueblo St, Oak Park Ln/Castillo	Employee/Physician	475
Lot 1	Castillo/Junipero	Visitor/Valet Service	69
Lot 2	Junipero	Visitor/Employee	40
Lot 3	On Castillo, Junipero/Pueblo	Employee/Auxiliary	80
Lot 4	Knapp	Visitor/Employee	131
Lot 5	Eye Center	Visitor	7
Lot 6	Pueblo	Employee	20
Lot 7	Castillo/Los Olivos	Employee	22
Emergency	Junipero	Visitor	9
Main Entry (Lobby)	Pueblo/Bath	Visitor/Valet Service	10
Reeves	Pueblo	Visitor	4
MRI	Pueblo/Castillo	Visitor/Employee	17
Infant Day Care	Oak Park Ln	Employee	2
Child Care Center	Pueblo	Employee	2
<b>Subtotal</b>			<b>888</b>
<b>On-Street Parking</b>	<b>Location</b>	<b>Designated Use</b>	<b>No. of Spaces</b>
Bath St	2200-2400 Blk, from Los Olivos to Quinto	Open	78
Castillo St	2200-2400 Blk, from Los Olivos to Quinto	Open	81
Pueblo St	200-400 Blk, from De La Vina to Oak Park Ln	Open	87
Junipero St	200-400 Blk, from De La Vina to Oak Park Ln	Open	49
Nogales St	200 Blk	Open	12
Oak Park Ln	2300 Blk, from Junipero to Pueblo	Open	32
Fletcher Av	2400 Blk	Open	20
<b>Subtotal</b>			<b>359</b>
<b>TOTAL</b>			<b>1247</b>

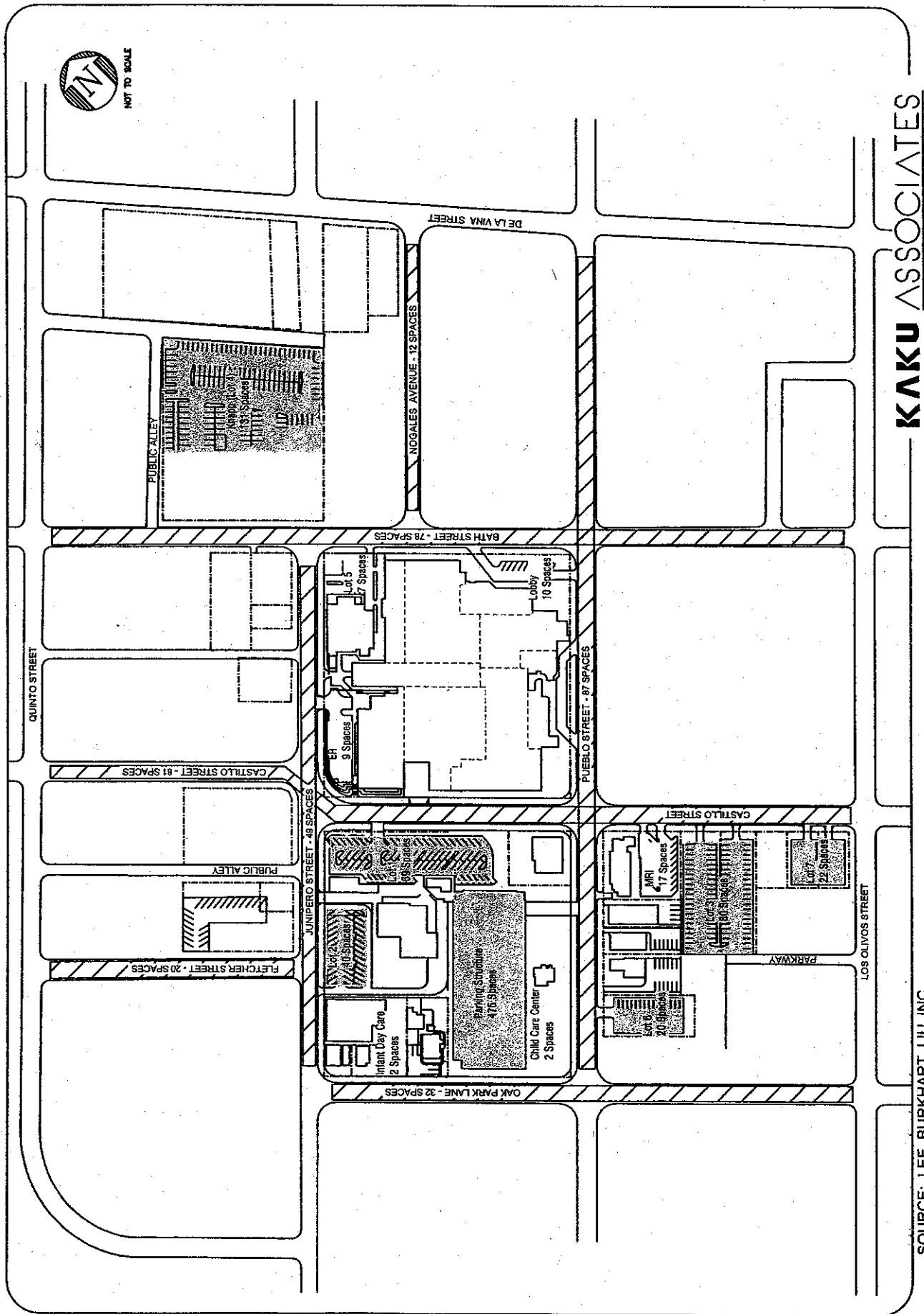


7. Hospital Parking Lot #7 - This gated lot contains 22 employee parking spaces. The lot is located on the southwest side of Castillo Street and Los Olivos Street.
8. Hospital Parking Structure - This four-level parking structure contains 475 spaces. The structure is located on the north side of Pueblo Street between Oak Park Lane and Castillo Street. Card readers and gates control access to the parking structure. Entry to this parking structure is obtained through Pueblo Street.
9. Hospital Emergency Room Entrance - The entrance to the Emergency Room is located on Junipero Street. The parking lot adjacent to the Emergency Room entrance contains nine spaces, which are used by Emergency Room patients and authorized emergency vehicles.
10. Hospital Main Entrance - The main entrance to the hospital is located on Bath Street. It has ten spaces for loading and unloading of patients and visitors with valet service.
11. Hospital Reeves Entrance - The Reeves entrance to the hospital is located on Pueblo Street. There are four handicapped parking spaces available for patients and visitors.
12. MRI - The MRI parking lot is located on the southwest corner of Pueblo Street and Castillo Street. It has 17 parking spaces that can be used by visitors and employees.
13. Infant Day Care - There are two employee parking spaces in the Infant Day Care center located on Oak Park Lane.
14. Child Care Center - There are two employee parking spaces in the Child Care Center located at the corner of Oak Park Lane and Pueblo Street.

It should be noted that because some of the off-street parking spaces were observed to be occupied on a long-term basis by hospital-related equipment and vehicles, the actual number of marked spaces may be slightly more than the number included in the inventory.

### **On-Street Supply**

Figure 4 and Table 1 also indicate that 359 on-street parking spaces on Bath Street, Castillo Street, Pueblo Street, Junipero Street, Nogales Street, Oak Park Lane, and Fletcher Avenue have been included in the parking supply for the hospital. As indicated, these on-street spaces are all located within one block of the hospital and are restricted to 90-minute parking on weekdays from 9 a.m. to 6 p.m. with no restrictions on weekends and between 6 p.m. and 9 a.m. on weekdays. The exceptions are the spaces on both sides of Oak Park Lane, the spaces on both sides of



KAKU ASSOCIATES

FIGURE 4  
ON-STREET PARKING SPACES

SOURCE: LEE, BURKHART, LIU, INC.

Fletcher Street, on both sides of Castillo Street north of Junipero Street, on both sides of Bath Street north of Junipero Street and on the north side of Junipero Street between Castillo Street and Oak Park Lane. These spaces do not have any restrictions.

The on-street parking supply for the hospital in this inventory includes the following:

1. Bath Street - 78 spaces on both sides of Bath Street between Quinto Street and Los Olivos Street.
2. Castillo Street - 81 spaces on both sides of Castillo Street between Quinto Street and Los Olivos Street.
3. Pueblo Street - 87 spaces on both sides of Pueblo Street between De la Vina Street and Oak Park Lane.
4. Junipero Street - 49 spaces on both sides of Junipero Street between Bath Street and Oak Park Lane.
5. Nogales Street - 12 spaces on both sides of Nogales Street between De la Vina Street and Bath Street.
6. Oak Park Lane - 32 spaces on both side of Oak Park Lane between Junipero Street and Olivos Street.
7. Fletcher Avenue - 20 spaces on both sides of Fletcher Street between Quinto Street and Junipero Street.

Since these are all public spaces on public streets, they are only available to hospital users on an as-available basis and within the context of any prevailing restrictions.

## **CONDITION OF EXISTING PARKING SYSTEM**

Parking surveys were conducted in July 2003 at the hospital to develop information on the usage and users of these spaces. After consultation with SBCH representatives, it was determined that the following surveys would be conducted:

- Staff/Employee Survey
- Customer (Patient/Visitor) Survey
- Utilization Survey

### **Staff/Employee Survey**

A survey of hospital staff/employees was conducted to obtain information on their travel and parking characteristics for work trips to and from the hospital. The questionnaires for the staff parking survey were distributed to hospital staff via email and paper copies. Employees were asked to describe their activities for one of two specific dates. The questionnaire, shown in Figure 5, was directed at the development of a profile of the travel and parking characteristics of the employees including mode of travel, auto occupancy, parking facility used, arrival and departure times, and travel origins. A total of 293 hospital employees responded to the questionnaire during the two days, 181 for Wednesday July 2, 2003 and 112 for Tuesday July 8, 2003. The results are summarized below:

**Mode of Travel.** The following table summarizes the response to the first question, mode of travel, among employees who responded to the survey:

	<u>July 2, 2003</u>	<u>July 8, 2003</u>
Auto (parked car)	89%	92%
Auto (dropped off)	1%	1%
Carpool	3%	1%
Bus	1%	1%
Bicycle	1%	2%
Walking	6%	2%

About 90% of hospital employees drive themselves and park their automobiles somewhere in the study area. The remaining 10% are generally distributed between being dropped off, a carpool, riding the bus, riding a bicycle, or walking.

**Location Parked.** Those employees who indicated that they drove an automobile were also asked where they parked. The results by day of survey response is as follows:

	<u>July 2, 2003</u>	<u>July 8, 2003</u>
Lot #1 (Castillo/Junipero)	4%	2%
Lot #2 (Junipero/Fletcher)	5%	4%
Lot #3 (Castillo-across from Sansum)	7%	4%
Lot #4 (Knapp)	11%	19%
Lot #5 (Eye Center)	0%	1%

FIGURE 5  
EMPLOYEE SURVEY QUESTIONNAIRE

**ANONYMOUS AND CONFIDENTIAL PARKING SURVEY**

**SANTA BARBARA COTTAGE HOSPITAL  
STAFF PARKING SURVEY**

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Hello! I am conducting a survey for the Santa Barbara Cottage Hospital to help improve parking conditions for the modernization plan. This survey is anonymous and confidential and is not being used for parking enforcement. Would you please be willing to answer a few brief parking-related questions?

1. What is your primary mode of transportation to work today?

- |                       |       |                           |       |
|-----------------------|-------|---------------------------|-------|
| a) Auto (parked)      | _____ | e) Bus                    | _____ |
| b) Auto (dropped off) | _____ | f) Bicycle                | _____ |
| c) Carpool            | _____ | g) Walking                | _____ |
| d) Vanpool            | _____ | h) Other (please specify) | _____ |

1a. If you drove, how many people were in your vehicle (including yourself)? \_\_\_\_\_

2. Where are you parked?

- |   |       |                    |       |
|---|-------|--------------------|-------|
| a) Lot #1 (Castillo/Junipero)               | _____ | Parking Structure  | _____ |
| Lot #2 (Junipero/Fletcher)                  | _____ | OPS                | _____ |
| Lot #3 (Castillo - Across<br>from Sansum)   | _____ | MRI                | _____ |
| Lot #4 (Knapp)                              | _____ | Infant Day Care    | _____ |
| Lot #5 (Eye Center)                         | _____ | Child Care Center  | _____ |
| Lot #6 (Pueblo - Across<br>from Child Care) | _____ | Main Entry (Lobby) | _____ |
| Lot #7 (Castillo/Los Olivos)                | _____ |                    |       |
| b) On Street (please specify)               | _____ |                    |       |
| c) Other (please specify)                   | _____ |                    |       |

3. When did you arrive? \_\_\_\_\_ AM \_\_\_\_\_ PM

3a. When do you plan to leave? \_\_\_\_\_ AM \_\_\_\_\_ PM

4. How many days per week do you travel to work in this manner? \_\_\_\_\_

5. What is the zip code for your residence? \_\_\_\_\_

*Thank you very much for your cooperation!*

Lot #6 (Pueblo - across from Child Care)	2%	3%
Lot #7 (Castillo/Los Olivos)	2%	2%
Parking Structure	50%	49%
OPS Lot	1%	1%
MRI Lot	0%	2%
Infant Day Care Lot	1%	1%
Child Care Center Lot	1%	1%
Main Entry (Lobby/Valet)	0%	0%
On-street	11%	9%

About half the employees on both days parked in the parking structure and 11-19% parked in the Knapp Lot. The next highest percentages were those that parked in an on-street parking space around the hospital campus, about 10% on both days. The remaining 20-30% parked in one of the other 12 lots on the hospital site.

**Time of Arrival/Departure.** The employees were also asked to indicate their time of arrival and departure on the day of the survey. This data, which is summarized below, verifies that the majority of the staff are employed during the day with starting times between 7 and 9 a.m.

<u>Arrival Time</u>	<u>July 2, 2003</u>	<u>July 8, 2003</u>
Before 6 a.m.	1%	2%
Between 6 a.m. - 7 a.m.	29 %	21%
Between 7 a.m. - 8 a.m.	31%	29%
Between 8 a.m. - 9 a.m.	18%	28%
After 9 a.m.	21%	20%
<u>Departure Time</u>	<u>July 2, 2003</u>	<u>July 8, 2003</u>
Before 3 p.m.	9%	13%
Between 3 p.m. - 4 p.m.	25%	15%
Between 4 p.m. - 5 p.m.	15%	24%
Between 5 p.m. - 6 p.m.	25%	25%
After 6 p.m.	26%	23%

The majority of the employees arrived between 6 and 9 a.m. and departed between 3 and 6 p.m.

A detailed summary of the survey results for both days is provided in the appendix of this report.

### Customer Parking Survey

After consultation with the SBCH study team, it was determined that the customer (i.e., patients and visitors) survey would be conducted on the following two days:

- Customer (Patient/Visitor) Survey - July 9, 2003: This date was selected to ensure that information from a Wednesday, which experiences the highest level of customer activity, was obtained in the data collection program.
- Customer (Patient/Visitor) Survey - July 10, 2003: This date was selected to supplement the primary date since Thursdays experience the second highest level of customer activity at the hospital.

The survey was conducted as a direct survey with a random sample. Customers were approached and asked to respond to a series of questions about parking. SBCH volunteers, who conducted the customer parking survey, were stationed at various hospital entrances in order to capture a random sample of the hospital visitors, inpatients, outpatients, and other visitors conducting business at the hospital as they entered the facility. The questions from the survey form, shown in Figure 6, were asked directly of the respondent to determine the travel and parking characteristics of this particular visit to the hospital including trip purpose, arrival and departure times, parking facility used, and duration of stay for hospital visitors.

A total of 153 people responded to the questionnaire during the two days. The results are summarized below:

**Purpose of Trip.** The first question served to identify purpose of the trip to the hospital, i.e., whether the respondent was a patient, hospital visitor or other business visitor:

	<u>July 9, 2003</u>	<u>July 10, 2003</u>
Visitor	28%	18%
Inpatient	13%	17%
Outpatient	34%	45%
Other	24%	20%

It can be seen that the respondents are fairly well distributed among the various purposes, including visitors and patients.

FIGURE 6  
CUSTOMER SURVEY QUESTIONNAIRE

**ANONYMOUS AND CONFIDENTIAL PARKING SURVEY**

**SANTA BARBARA COTTAGE HOSPITAL  
CUSTOMER PARKING SURVEY**

Date: \_\_\_\_\_  
Time: \_\_\_\_\_

Hello! I am conducting a survey for the Santa Barbara Cottage Hospital to help improve parking conditions for the modernization plan. This survey is anonymous and confidential and is not being used for parking enforcement. Would you please be willing to answer a few brief parking-related questions?

1. What is the primary purpose of your trip to the hospital today?

- |              |       |                           |       |
|--------------|-------|---------------------------|-------|
| a) Visitor   | _____ | c) Outpatient             | _____ |
| b) Inpatient | _____ | d) Other (please specify) | _____ |

2. What is your primary mode of transportation to the hospital today?

- |                       |       |                           |       |
|-----------------------|-------|---------------------------|-------|
| a) Auto (parked)      | _____ | d) Bicycle                | _____ |
| b) Auto (dropped off) | _____ | e) Walking                | _____ |
| c) Bus                | _____ | f) Other (please specify) | _____ |

2a. If you drove here, where are you parked?

- |   |       |                    |       |
|---|-------|--------------------|-------|
| a) Hospital: Lot #1 (Castillo/Junipero) | _____ | Emergency          | _____ |
| Lot #2 (Junipero/Fletcher)              | _____ | Main Entry (Bath)  | _____ |
| Lot #3 (Castillo)                       | _____ | Reeves (Pueblo)    | _____ |
| Lot #5 (Eye Center)                     | _____ | OutPatient Surgery | _____ |
|   |       | MRI                | _____ |
| b) On Street (please specify)           | _____ |                    |       |
| c) Other (please specify)               | _____ |                    |       |

3. When did you arrive? \_\_\_\_\_ AM/PM

3a. Approximately how long do you expect to stay? \_\_\_\_\_

*Thank you very much for your cooperation!*



**Mode of Travel.** The following table summarizes the response to the question on mode of travel among customers who responded to the survey:

	<u>July 9, 2003</u>	<u>July 10, 2003</u>
Auto (parked car)	85%	88%
Auto (dropped off)	5%	8%
Bus	0%	2%
Bicycle	0%	0%
Walking	6%	2%

It can be seen that about 85% of the customers of the hospital drive themselves and park their automobiles somewhere in the study area. The remaining 15% are generally distributed between being dropped off, riding the bus, or walking.

**Location Parked.** Those customers who indicated that they drove an automobile were also asked where they parked. The results by day of survey response are as follows:

	<u>July 9, 2003</u>	<u>July 10, 2003</u>
Lot #1 (Castillo/Junipero)	15%	7%
Lot #2 (Junipero/Fletcher)	0%	5%
Lot #3 (Castillo)	6%	2%
Emergency Room Lot	14%	2%
Main Entry (Lobby/Valet)	1%	13%
Reeves (Pueblo)	2%	5%
MRI	0%	15%
On-street	52%	44%

In contrast to the employees, about half of the customers parked in on-street spaces in the area. The next highest percentages were those that parked in Lot #1, the Emergency Room Lot, and the MRI Lot.

**Time of Arrival/Departure.** The customers were also asked to indicate their time of arrival and the expected departure time on the day of the survey. The results of this question indicate that the arrival time is distributed relatively evenly over the course of the day starting as early as 6 a.m., with the latest arrivals before 5 p.m. The survey indicates that the average visitor stays from 3.1 to 3.8 hours and the average outpatient stays 1.2 to 1.4 hours. Inpatients expect to stay much longer, normally at least overnight.

A detailed summary of the survey results for both days is provided in the appendix of this report.

### **Parking Utilization Survey**

A parking utilization survey was conducted at the hospital to determine the number of occupied spaces in each facility and, in turn, the percentage of the supply that is utilized by time of day. The survey was conducted for all the hospital's parking lots, the four-level parking structure, and the adjacent on-street parking spaces that are included as part of the parking hospital parking supply. Each space in each facility was counted at one-hour intervals from 7 a.m. to 7 p.m. to determine if the space was occupied. The 12-hour period of the survey encompassed both peak periods, i.e., morning peak period and the evening peak period, as well as the midday period of usage.

Table 2 summarizes the results of the utilization survey for each of the 13 parking lots, the parking structure and the seven street segments that are included in the on-street parking supply. The table indicates the number of spaces available, the number of occupied spaces, and the percent occupancy for each of the facilities in the parking system by hour for the entire 12-hour period of the survey. The results of the survey indicate that by 9 a.m., 97% of the 888 off-street parking spaces in the hospital's system are occupied and they remain at this level until 4 p.m., when the occupancy reduces to 83%. Similarly, the on-street spaces included in the study area are 97% occupied by 8 a.m. and remain at this level until 5 p.m., when the occupancy reduces to 85%. Figure 7 has been prepared to illustrate graphically the hourly percent utilization of the 888 off-street parking spaces in the hospital system. Figure 8 illustrates similar information for the 359 on-street spaces included in the system.

Typically, occupancy percentages higher than 85% to 90% are considered to indicate a fully utilized parking supply. This implies that for planning purposes, the Cottage Hospital parking system is fully occupied during the key period of the day between 9 a.m. and 4 p.m. on a typical weekday.

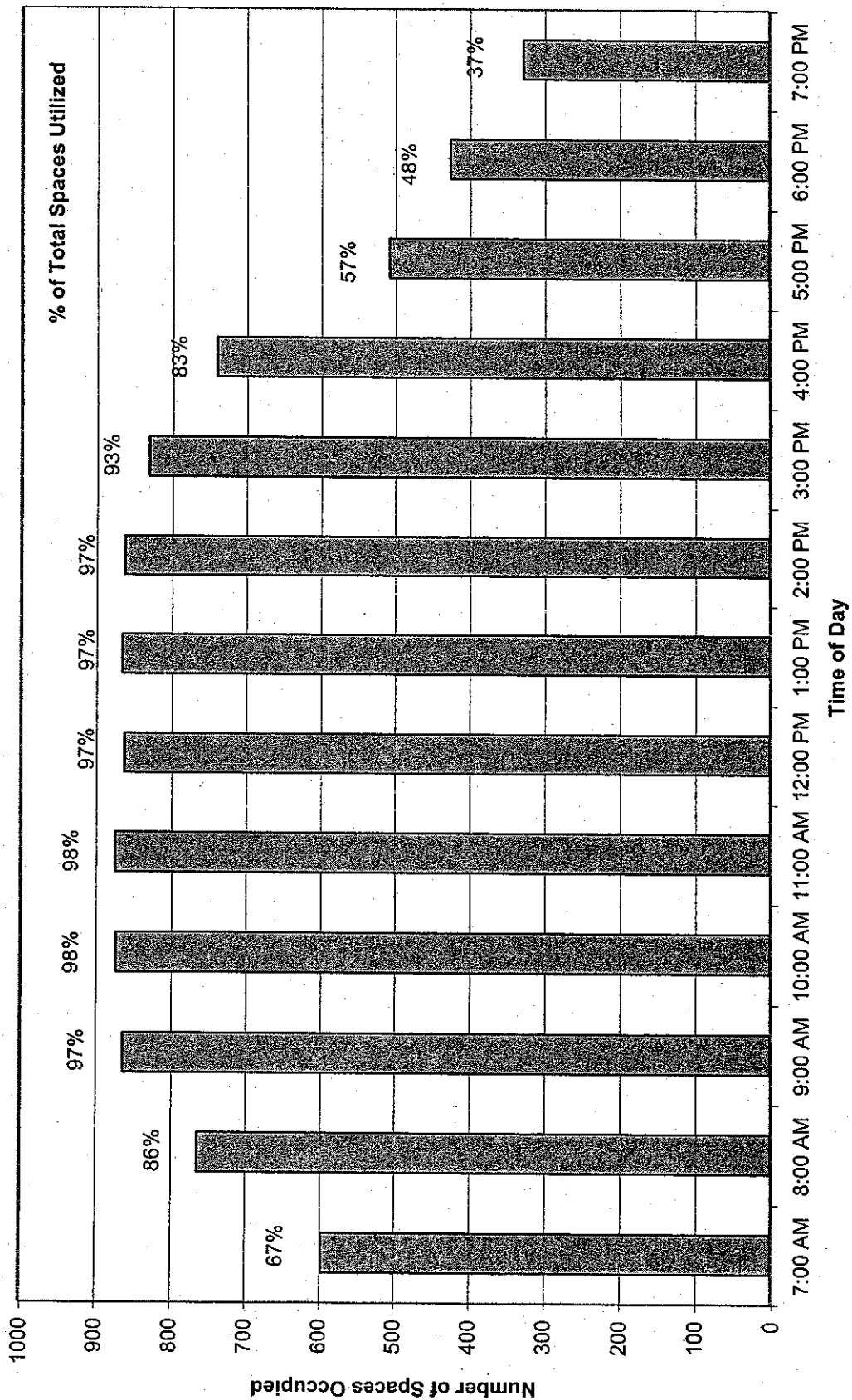
TABLE 2  
PARKING UTILIZATION OF COTTAGE HOSPITAL PARKING SYSTEM

Wednesday, July 9, 2003														
	# of Spaces	7:00 AM		8:00 AM		9:00 AM		10:00 AM		11:00 AM		12:00 PM		
	Available	occ	% occ	occ	% occ	occ	% occ	occ	% occ	occ	% occ	occ	% occ	
Hospital parking	Parking Structure	475	385	81%	425	89%	462	97%	474	100%	471	99%	470	99%
	Lot 1	69	52	75%	68	99%	69	100%	67	97%	68	99%	68	99%
	Lot 2	40	38	95%	40	100%	40	100%	40	100%	39	98%	40	100%
	Lot 3	80	45	56%	73	91%	80	100%	80	100%	80	100%	78	98%
	Lot 4	131	45	34%	105	80%	131	100%	131	100%	131	100%	125	95%
	Lot 5	7	1	14%	3	43%	6	86%	7	100%	7	100%	5	71%
	Lot 6	20	11	55%	16	80%	20	100%	20	100%	20	100%	18	90%
	Lot 7	22	4	18%	7	32%	20	91%	22	100%	22	100%	21	95%
	Emergency	9	4	44%	5	56%	7	78%	7	78%	8	89%	9	100%
	Main Entry	10	7	70%	10	100%	10	100%	10	100%	9	90%	10	100%
	Reeves	4	0	0%	2	50%	3	75%	2	50%	3	75%	3	75%
	MRJ	17	3	18%	8	47%	12	71%	11	65%	13	76%	12	71%
	Infant Day Care	2	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Child Care Center	2	1	50%	1	50%	2	100%	1	50%	2	100%	2	100%	
Total # of Spaces	888	596	67%	763	86%	862	97%	872	98%	873	98%	861	97%	
Street Parking	Bath	78	78	100%	78	100%	78	100%	78	100%	77	99%	78	100%
	Castillo	81	73	90%	80	99%	81	100%	80	99%	76	94%	81	100%
	Pueblo	87	76	87%	84	97%	83	95%	86	99%	81	93%	82	94%
	Junipero	49	36	73%	43	88%	47	96%	47	96%	49	100%	48	98%
	Nogales	12	11	92%	12	100%	12	100%	12	100%	12	100%	12	100%
	Oak Park	32	21	66%	32	100%	32	100%	32	100%	30	94%	27	84%
	Fletcher	20	20	100%	20	100%	20	100%	20	100%	20	100%	20	100%
	Total # of Spaces	359	315	88%	349	97%	353	98%	355	99%	345	96%	348	97%

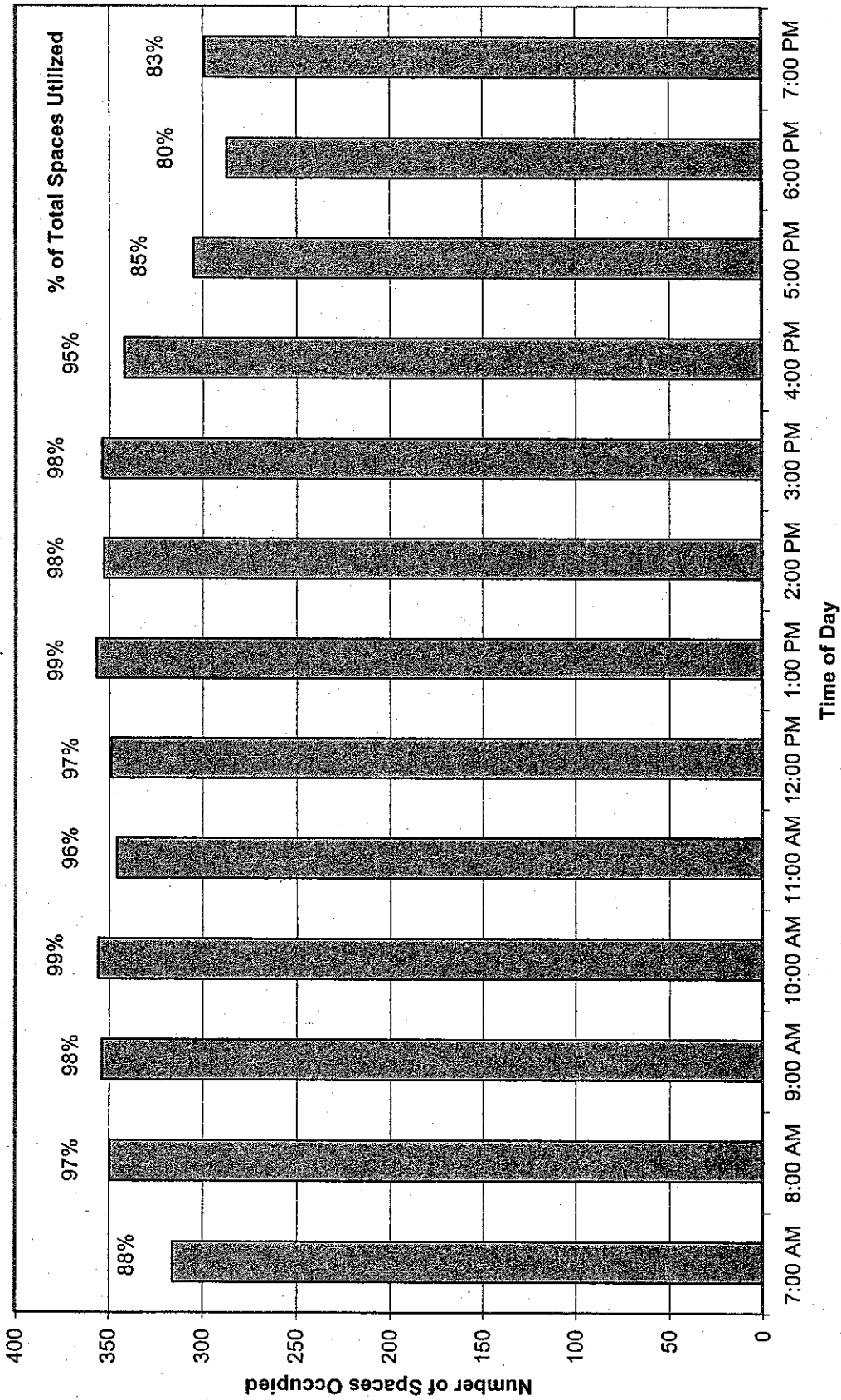
**TABLE 2**  
**PARKING UTILIZATION OF COTTAGE HOSPITAL PARKING SYSTEM**  
(Continued)

Wednesday, July 9, 2003															
	# of Spaces Available	1:00 PM		2:00 PM		3:00 PM		4:00 PM		5:00 PM		6:00 PM		7:00 PM	
		occ	% occ	occ	% occ	occ	% occ	occ	% occ	occ	% occ	occ	% occ	occ	% occ
Hospital parking															
Parking Structure	475	475	100%	468	99%	450	95%	364	77%	258	54%	221	47%	201	42%
Lot 1	69	69	100%	68	99%	69	100%	69	100%	69	100%	69	100%	69	100%
Lot 2	40	39	98%	39	98%	39	98%	37	93%	29	73%	29	73%	12	30%
Lot 3	80	80	100%	79	99%	75	94%	72	90%	41	51%	24	30%	8	10%
Lot 4	131	124	95%	131	100%	126	96%	127	97%	65	50%	46	35%	13	10%
Lot 5	7	7	100%	7	100%	3	43%	3	43%	3	43%	1	14%	0	0%
Lot 6	20	19	95%	19	95%	20	100%	15	75%	8	40%	6	30%	0	0%
Lot 7	22	19	86%	20	91%	20	91%	19	86%	7	32%	6	27%	3	14%
Emergency	9	8	89%	5	56%	7	78%	8	89%	9	100%	9	100%	8	89%
Main Entry	10	10	100%	10	100%	8	80%	10	100%	9	90%	10	100%	9	90%
Reeves	4	3	75%	3	75%	2	50%	4	100%	2	50%	2	50%	3	75%
MRI	17	10	59%	10	59%	8	47%	7	41%	5	29%	1	6%	1	6%
Infant Day Care	2	0	0%	0	0%	0	0%	1	50%	0	0%	0	0%	0	0%
Child Care Center	2	1	50%	2	100%	2	100%	2	100%	1	50%	0	0%	0	0%
Total # of Spaces	888	864	97%	861	97%	829	93%	738	83%	506	57%	424	48%	327	37%
Street Parking															
Bath	78	77	99%	78	100%	78	100%	72	92%	71	91%	78	100%	74	95%
Castillo	81	81	100%	78	96%	81	100%	79	98%	75	93%	70	86%	73	90%
Pueblo	87	85	98%	84	97%	82	94%	85	98%	76	87%	75	86%	79	91%
Junipero	49	49	100%	48	98%	49	100%	48	98%	45	92%	42	86%	48	98%
Nogales	12	12	100%	12	100%	12	100%	12	100%	3	25%	3	25%	7	58%
Oak Park	32	32	100%	32	100%	31	97%	25	78%	14	44%	3	9%	6	19%
Fletcher	20	20	100%	20	100%	20	100%	20	100%	20	100%	15	75%	11	55%
Total # of Spaces	359	356	99%	352	98%	353	98%	341	95%	304	85%	286	80%	298	83%

**FIGURE 7**  
**PARKING UTILIZATION OF OFF-STREET SPACES**



**FIGURE 8**  
**PARKING UTILIZATION OF ON-STREET SPACES**



## **EXISTING TRAFFIC CONDITIONS**

The assessment of existing traffic conditions includes an inventory of the circulation system that serves the hospital, identification of the key streets and intersections within the study area for the master plan project, and an evaluation of the operating conditions of the existing system.

### **Existing Circulation System**

Regional access to the Santa Barbara Cottage Hospital is provided by the US-101 Freeway. The US-101 Freeway generally runs in the north-south direction but runs in the east-west direction within the Santa Barbara County adjacent to the project site. Access to SBCH is available via two exit ramps from westbound (northbound) on 101 Freeway, Mission Street, or Pueblo Street. Access from eastbound (southbound) on US-101 traffic is available from Mission Street.

Surface streets that provide access between U.S. 101 and the project include Las Positas Road, Mission Street, Calle Real, Modoc Road, and Pueblo Street. Las Positas, Mission, and Pueblo are basically north-south streets that have ramps onto and/or off of the freeway. Calle Real and Modoc are east-west streets that generally run parallel to the freeway on the north and south sides, respectively. Both connect to Las Positas Road and Mission Street and Calle Real also connects to Pueblo Street.

Other local streets in the immediate vicinity of the hospital include Junipero Street, Nogales Street, and Los Olivos Street in the north-south direction and Oak Park Lane, Castillo Street, Bath Street, and De La Vina Street in the east-west direction. Table 3 provides detailed descriptions of each of these streets in the study area. Diagrams of the existing lane configurations at the study intersections are provided in Appendix B of this report.

### **Intersections Within Study Area**

Discussion with City of Santa Barbara staff resulted in the identification of the key intersections within the study area that would be analyzed in detail. The following intersections, which are illustrated in Figure 9, were selected for analysis in this study.

**TABLE 3**  
**LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS**

<b>Level of Service</b>	<b>Volume/ Capacity Ratio</b>	<b>Definition</b>
A	0.00-0.60	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.61-0.70	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.71-0.80	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles
D	0.81-0.90	FAIR. Delays may be substantial during portions of the rush hour, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.91-1.00	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	>1.00	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source: Transportation Research Board, Transportation Research Circular No. 212, Interim Materials on Highway Capacity, 1980.



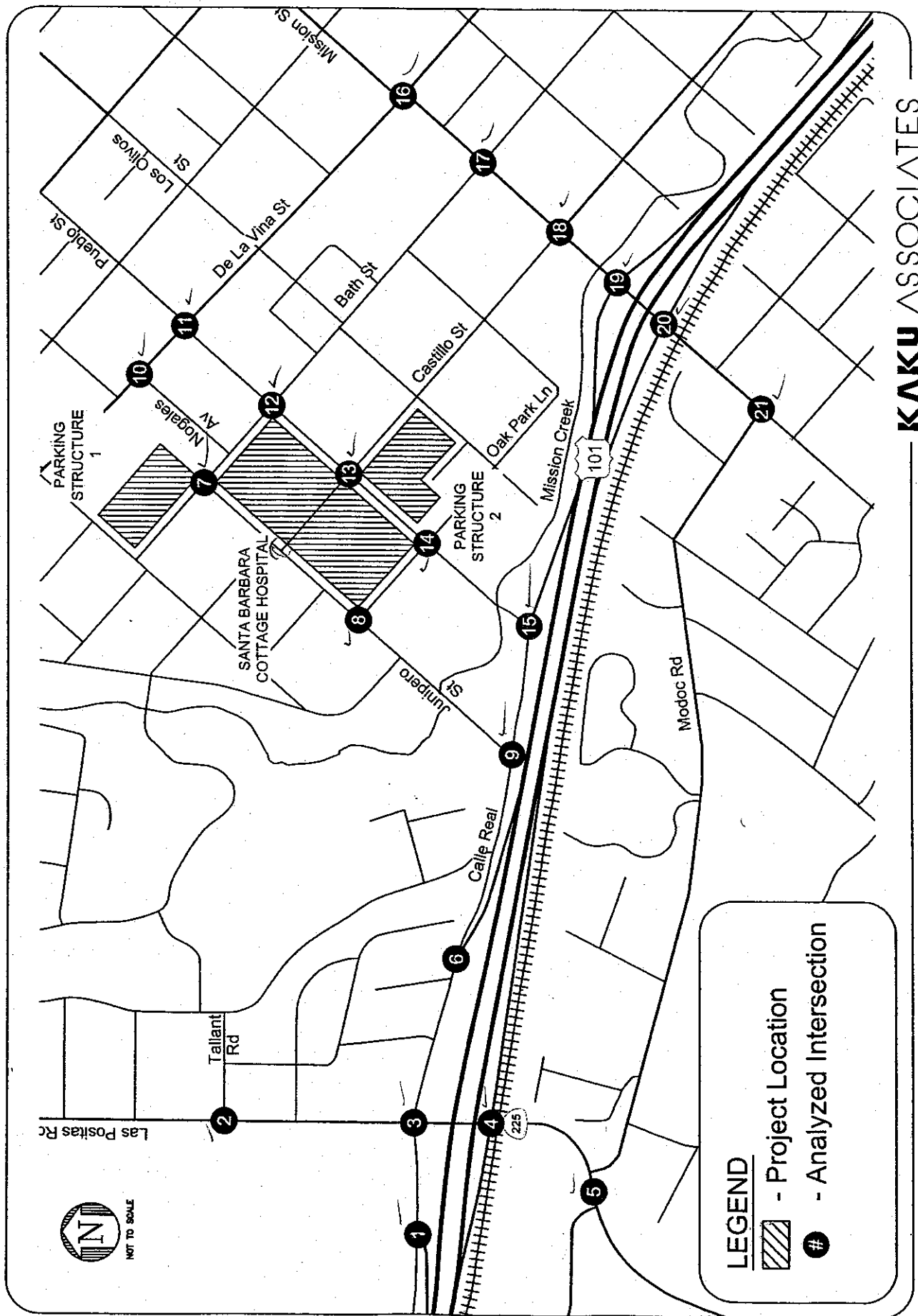


FIGURE 9  
INTERSECTIONS TO BE ANALYZED

1. Las Positas Rd/US-101 NB onramp<sup>1</sup>
2. Las Positas Rd/Tallant Rd
3. Las Positas Rd/Calle Real<sup>1</sup>
4. Las Positas Rd/US-101 SB ramps<sup>1</sup>
5. Las Positas Rd/Modoc Rd <sup>1</sup>
6. Las Positas Rd/US-101 NB offramp
7. Junipero St/Bath St
8. Junipero St/Oak Park Ln
9. Junipero St/Calle Real
10. Nogales Av/De La Vina St
11. Pueblo St/De La Vina St
12. Pueblo St/Bath St
13. Pueblo St/Castillo St
14. Pueblo St/Oak Park Ln
15. Pueblo St/Calle Real
16. Mission St/De La Vina St<sup>1</sup>
17. Mission St/Bath St<sup>1</sup>
18. Mission St/Castillo St<sup>1</sup>
19. Mission St/US-101 NB ramps<sup>1</sup>
20. Mission St/US-101 SB ramps<sup>1</sup>
21. Mission St/Modoc Rd

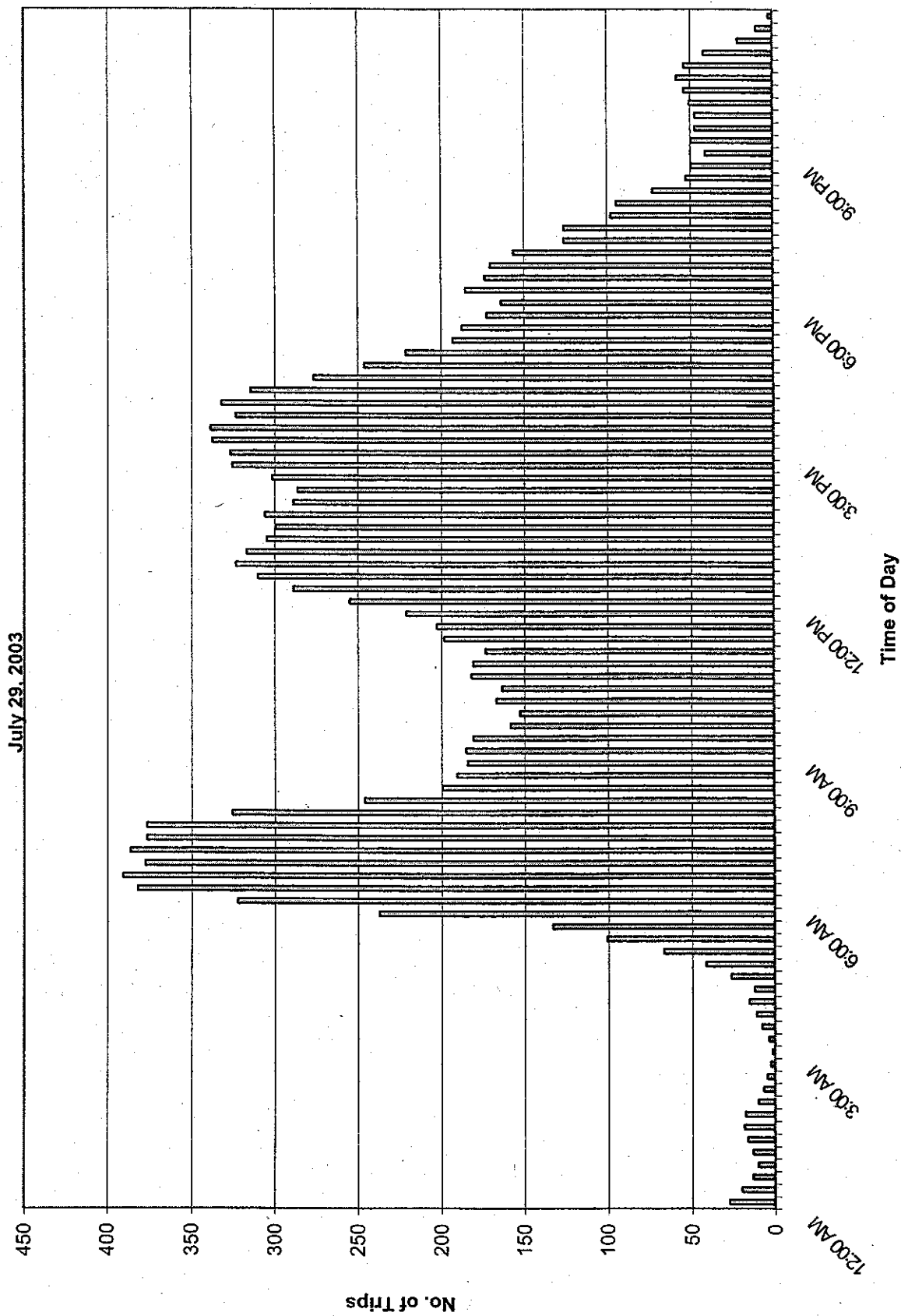
<sup>1</sup> Signalized intersection

It can be seen that nine of the 21 locations are currently signalized.

### **Traffic Counts**

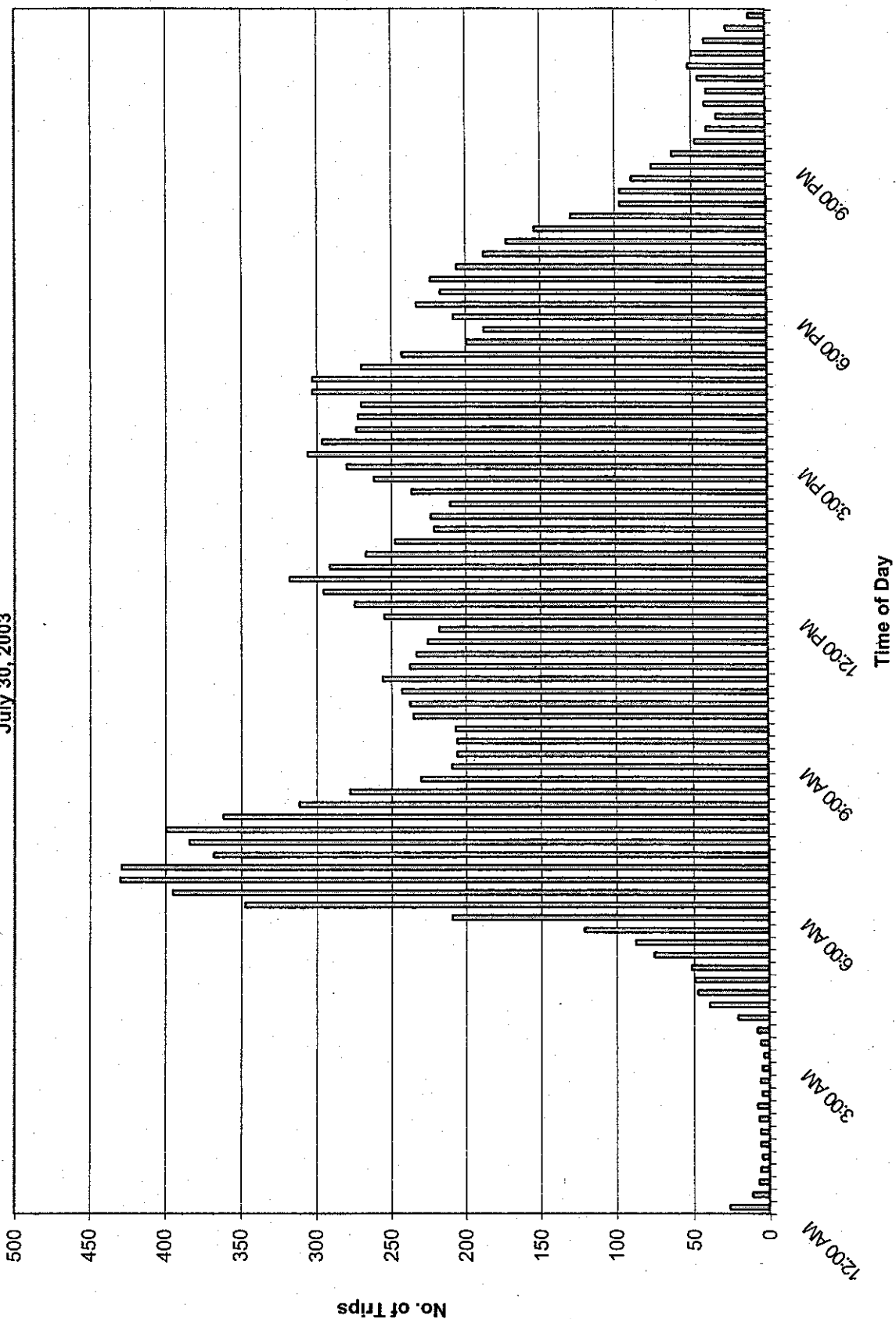
Existing traffic volumes on the US-101 freeway range from 135,000 to 142,000 vehicles per day between Mission Street and Las Positas Road. A data collection program was implemented to supplement this information. Weekday morning and evening peak hour traffic counts were conducted at each of the 21 intersections in July 2003 as part of this study. Peak hour turning movement counts for these intersections are illustrated in Figures 10 and 11. Traffic count data sheets used to prepare Figure 10 are contained in Appendix C.

**FIGURE 10**  
**Hourly Traffic Entering and Exiting Hospital Campus**



**FIGURE 11**  
**Hourly Traffic Entering and Exiting Hospital Campus**

July 30, 2003



### **Level of Service Methodology**

Level of Service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overloaded conditions at LOS F. According to City of Santa Barbara standards, LOS C is the recognized minimum acceptable level of service for locations within the study area.

The Critical Movement Analysis (CMA) method (Transportation Research Board, *Transportation Research Circular No. 212, Interim Materials on Highway Capacity*, 1980) of intersection capacity analysis was used to determine the intersection volume to capacity (V/C) ratio and corresponding level of service for the given turning movements and intersection characteristics at the signalized intersections. Table 3 defines the ranges of V/C ratios and their corresponding levels of service for signalized intersections using the CMA method. For stop-controlled intersections, the level of service is based on the average vehicular delay. Table 4 indicates the delays and their corresponding levels of service for the stop-controlled intersections using the Highway Capacity Manual 2000 (HCM 2000) method.

### **Existing Levels of Service**

Table 5 summarizes the existing a.m. and p.m. peak hour delays and corresponding levels of service at each of the analyzed intersections. As shown on Table 5, 20 of the study intersections are operating acceptably at LOS C or above during both the a.m. and p.m. peak hours. The intersection of Las Positas Road/Tallant Road is currently operating at LOS D in the morning peak hours and LOS F in the evening peak hours.

### **EXISTING PUBLIC TRANSIT SERVICE**

The Santa Barbara Cottage Hospital and Oak Park neighborhood is serviced by the Santa Barbara Metropolitan Transit District (MTD) No. 3 Shuttle. This shuttle operates from State Street

**TABLE 4**  
**LEVEL OF SERVICE FOR UNSIGNALIZED INTERSECTIONS**  
**(TWO-WAY STOP-CONTROLLED AND ALL-WAY STOP-CONTROLLED INTERSECTIONS)**

<b>Level of Service</b>	<b>Average Stopped Delay per Vehicle (seconds)</b>
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

Source: Transportation Research Board, *Highway Capacity Manual 2000*

**TABLE 5**  
**INTERSECTION LEVEL OF SERVICE ANALYSIS**  
**EXISTING PROJECT CONDITIONS**

Intersection	Peak Hour	Existing	
		V/C[a]/Delay[b]	LOS
1 US 101 NB On Ramp & * Calle Real	AM	0.532	A
	PM	0.620	B
2 Las Positas Rd & Tallant St	AM	31.9	D
	PM	59.4	F
3 Las Positas Rd & * Calle Real	AM	0.492	A
	PM	0.611	B
4 Las Positas Rd & * US 101 SB Ramps	AM	0.532	A
	PM	0.671	B
5 Las Positas Rd & * Modoc Rd	AM	0.413	A
	PM	0.546	A
6 Leslie St/US 101 NB Off Ramp Calle Real	AM	10.4	B
	PM	12.6	B
7 Junipero St & Bath St	AM	9.9	A
	PM	10.7	B
8 Junipero St & Oak Park Ln	AM	9.7	A
	PM	9.9	A
9 Junipero St & Calle Real	AM	9.3	A
	PM	13.1	B
10 Nogales Av De La Vina St	AM	10.3	B
	PM	10.9	B
11 Pueblo St & De La Vina St	AM	15.8	C
	PM	19.8	C
12 Pueblo St & Bath St	AM	9.1	A
	PM	9.9	A
13 Pueblo St & Castillo St	AM	9.4	A
	PM	10.0	A
14 Pueblo St & Oak Park Ln	AM	12.7	B
	PM	12.9	B

Notes:

\* Signalized Intersections

[a] V/C ratios apply to signalized intersections.

[b] Delay (seconds/vehicle) apply to unsignalized intersections.

**TABLE 5**  
**EXISTING PROJECT CONDITIONS**  
**(Continued)**

Intersection	Peak Hour	Existing	
		V/C[a]/Delay[b]	LOS
15 Pueblo St & Calle Real	AM	11.6	B
	PM	12.1	B
16 Mission St & * De La Vina St	AM	0.439	A
	PM	0.509	A
17 Mission St & * Bath St	AM	0.576	A
	PM	0.704	C
18 Mission St & * Castillo St	AM	0.556	A
	PM	0.613	B
19 Mission St & * US 101 NB Ramps	AM	0.652	B
	PM	0.668	B
20 Mission St & * US 101 SB Ramps	AM	0.571	A
	PM	0.638	B
21 Mission St & Modoc Rd	AM	17.5	C
	PM	22.0	C

Notes:

\* Signalized Intersections

[a] V/C ratios apply to signalized intersections.

[b] Delay (seconds/vehicle) apply to unsignalized intersections.



and La Cumbre, circulates through the Oak Park Neighborhood and SBCH to downtown Santa Barbara. This shuttle also provides extra service to Oak Park during many festival weekends.

### **III. PARKING DEMAND ANALYSIS**

A detailed assessment of the existing parking demand was conducted to develop an understanding of the magnitude of the demand, the components, and its relationship to hospital activities. This analysis provided the data to develop a methodology used to prepare parking demand forecasts for the hospital that would reflect future conditions consistent with the Santa Barbara Cottage Hospital Seismic Compliance and Modernization Plan. The methodology incorporated all relevant available empirical data associated with the existing activity levels at the hospital that are expressed in terms of its operational components. These components include the number of staff and physicians, inpatients, outpatients, visitors, the number and size of the operating rooms, and the number of licensed beds. These were compared to the travel and parking characteristics of the employees and customers including mode of travel, time of arrival/departure, etc. The two sets of data were then used to develop a demand model that would allow parking demand forecasts to be made based on the changes in the operational components of the hospital.

#### **OPERATIONAL COMPONENTS**

The first step in the assessment of existing parking conditions was the identification of all the operational components that assist in defining the level of activity that occurs at the hospital. These parameters include the following:

- Number of employees
  - Maximum Full-time Equivalent (FTE) on site
- Number of physicians
- Number of volunteers
- Number of outpatients
  - Annual non-ER patients
  - Annual ER visits
- Number of inpatients
  - Number of licensed beds
  - Average length of stay of patients

- Number of Visitors to Inpatients
- Cancer Center
  - Number of employees
  - Number of volunteers

Working with the SBCH, the actual figures that correspond to the various parameters identified above were obtained for existing conditions. Table 6 summarizes this data indicating the current number of employees, doctors and licensed beds, but using annualized data for July 2003 for the number patients and visitors. Key factors associated with these components include the following:

- Although there are currently 1,666 staff employed by the hospital at this time, a maximum of 908 FTE are normally on the hospital site on a daily basis. The difference relates to the different shifts that employees are assigned and the normal daily absentees due to vacations, sick days, and off-site business.
- The table also indicates that the 37,743 outpatients that were registered at the hospital, based on July 2003 annualized data, averaged about 151 outpatients per day based an average of 250 days per year. This assumes that outpatients used the facilities during weekdays only.
- The 25,786 ER patients that visited the hospital based on July 2003 annualized data averaged 71 patients per day based on 365 days per year. This reflects the recognition that the ER is open 24 hours per day 365 days per year.
- The 20,136 inpatients that stayed at the hospital, based on July 2003 annualized data, stayed an average of four days per patient. This results in an average of 226 occupied beds out of the possible 456 licensed beds at the hospital.
- The hospital has estimated that each inpatient generates about 1.5 visitors per day, resulting in a total estimate of 339 visitors per day at the hospital under existing conditions.
- The employee and visitor figures for the Cancer Center were provided by the center.

## **PARKING DEMAND FORECASTING METHODOLOGY**

The data describing the travel and parking characteristics of employees and customers was summarized in the previous section. This data identified the mode of travel, auto occupancy, and arrival and departure times for each group. This data was used to estimate the implied parking demand generated by each group or component of the hospital operation. Table 7 summarizes the parking estimate under existing conditions based on the operation components of the hospital. The table includes the values from Table 6, provides the number of each component that is

**TABLE 6**  
**OPERATIONAL COMPONENTS - EXISTING CONDITONS**

Component/User	Existing Conditions (2003)	Source/Comments
EMPLOYEES	1,666	SBCH 9/8/03. Estimated full-time equivalent (FTE)
Maximum FTE on-site	908	employees present on a daily basis.
DOCTORS	100	SBCH 9/8/03.
VOLUNTEERS	35	SBCH, 9/8/03. Average of 35 volunteers per day. Volunteer works in 4 hour shifts, minimum of once/week per SBCH Volunteer Services.
OUTPATIENT VISITS		
annual (not including ER)	37,743	SBCH 9/8/03.
average per day (not including ER)	151	Daily estimate based on annual/250 days.
annual ER visits	25,786	
average per day (ER visits)	71	Daily estimate based on annual/365 days. ER open 24 hours, 365 days/year.
INPATIENTS	20,136	SBCH 9/8/03.
beds licensed	456	State License from DHS.
average beds occupied per day	226	
average length of stay (days)	4	
INPATIENT VISITORS		
average per day @ 1.5 per inpatient	339	
CANCER CENTER		
employees	70	Cancer Center, 8/03. Daily employees on-site.
volunteers	35	Cancer Center, 8/03. Monthly volunteers on-site.

**TABLE 7**  
**PARKING DEMAND ESTIMATE - BASED ON OPERATIONAL COMPONENTS**

Component/User	Existing (2003)	Existing On-site During Peak Demand Period	Parking Demand Factor	Existing Peak Parking Demand
EMPLOYEES	1,666			
Maximum FTE on-site	908	908	0.90	817
DOCTORS	100	100	1.00	100
VOLUNTEERS	35	11	0.95	10
OUTPATIENT VISITS				
annual (not including ER)	37,743			
average per day (not including ER) <i>260 days</i>	151	45	0.89	40
annual ER visits	25,786			
average per day (ER visits) <i>365 days</i>	71	8	0.89	7
INPATIENTS	20,136			
beds licensed	456			
average beds occupied	226	203	0.60	122
average length of stay - 4 days				
INPATIENT VISITORS				
average per day @ 1.5 per inpatient	339	58	0.75	43
CANCER CENTER				
employees	70	70	0.90	63
volunteers	35	4	0.90	3
Total				1,206

estimated to be on site during the peak period of hospital activity, provides the parking demand factor for each component, and provides the parking demand currently generated by each component. Based on the application of this parking demand model, the existing parking demand generated by the current level of activity at the hospital is 1,206 parking spaces. One exception should be noted regarding the methodology. Because physicians are provided with assigned parking, their parking demand exists 100% of the time and is based on actual on-site presence.

The 1,206-space parking demand is comprised of the following elements:

• Employees	817 spaces
• Physicians	100
• Volunteers	10
• Outpatients (including ER)	47
• Inpatients	122
• Visitors	43
• Cancer Center	66
Total	1,206

## **VALIDATION OF THE PARKING DEMAND FORECASTING METHODOLOGY**

The parking demand model developed and described above was validated using data from the parking utilization survey conducted for the hospital. The results of the survey, which is presented in Table 8, indicates that of the 888 on-site parking spaces at the hospital, 873 were occupied during the peak period of parking utilization. Of the 359 on-street parking spaces included in the parking supply for the hospital, 355 were occupied during the peak period. The results of the employee survey indicate that 9% of the employees park in on-street spaces. The results of the customer survey indicate that 55% of the customers use on-street spaces to park their vehicles. This data combined with the data in Table 8 was used to estimate that employees or customers of the Cottage Hospital use approximately 83% of the on-street spaces that are occupied during the peak period of usage. This results in a total estimated parking demand of 1,167 spaces based on actual occupancy of currently available parking supply. This is within 3% of the parking demand estimated by the parking demand forecasting model for the hospital. While recognizing that 3% is easily within the limits of the margin of error for this procedure, the difference of 39 spaces can

**TABLE 8  
EXISTING PARKING UTILIZATION**

<b>Parking Supply</b>	<b>Capacity</b>	<b>Existing Utilization During Peak Period</b>	<b>% Usage by Hospital</b>	<b>Existing Parking Demand</b>
Off-Street Parking Spaces	888	873	100%	873
On-Street Parking Spaces	359	355	82%	294
<b>Total Existing Parking Demand</b>				<b>1,167</b>

easily be explained by the fact that the parking demand for physicians was assumed to be 100 spaces although the actual usage at the time of the parking survey is likely to be less.

Therefore, it can be concluded that the parking demand forecasting model developed for Cottage Hospital can be used to develop reasonably accurate estimates of future parking demand based on forecasts of level of activity at the hospital in terms of the operational components.



#### **IV. TRAFFIC FORECASTING METHODOLOGY**

A procedure similar to the process used to develop the parking demand forecasting model was used for the development of the traffic forecasting methodology. This included a series of traffic counts conducted at each of the driveways to the 14 parking facilities on the Cottage Hospital site. This data was compared to the results of the employee and customer survey data to estimate the total volume of hospital generated traffic. This data was then compared to the same hospital operating components to develop traffic generation factors for the hospital.

##### **HOSPITAL DRIVEWAY COUNTS**

Automatic machine traffic counts were conducted on July 29 and July 30, 2003 for two 24-hour periods at each of the entrance and exit driveways to the major parking facilities included in the SBCH parking supply. The larger facilities plus those that are available to employees, patients, and visitors (Parking Structure, Lots 1, 2, 3, 4, and 6) were selected. These parking facilities represent approximately 92% of the total hospital parking supply and provide a good representation of the hourly traffic patterns into and out of the hospital. The traffic volumes from these representative facilities were adjusted proportionately to provide an estimate of the total traffic into and out of the parking facilities on the SBCH campus. The data in Table 9 provides a summary of the hour-by-hour estimate of traffic volumes into and out of the SBCH campus on each of the two days of the count program. Based on the results summarized in Table 9, it is estimated that the daily traffic into and out of the SBCH campus was 3,890 and 4,089 daily vehicle trips for the two days of the survey, respectively.

A more detailed analysis of the traffic counts reveals that the peak hour of traffic into and out of the campus was 390 vehicles per hour during the morning peak hour between 6:30 and 7:30 a.m. on July 29. During the evening peak hour the peak occurred between 3:30 and 4:30 p.m. with a volume of 338 vph. The equivalent numbers for the counts on July 30 were 429 vph between 6:30 and 7:30 a.m. and 305 vph between 3:00 and 4:00 p.m. Overall, because the volumes on July 30 tended to be higher than on July 29, these figures were used as the basis

**TABLE 9**  
**EXISTING TRAFFIC VOLUMES INTO AND OUT OF SBCH CAMPUS**

TIME	July 29, 2003		July 30, 2003	
	IN	OUT	IN	OUT
12:00 AM	3	24	5	21
1:00 AM	1	12	0	4
2:00 AM	4	5	0	8
3:00 AM	1	1	1	2
4:00 AM	11	4	30	9
5:00 AM	64	2	70	5
6:00 AM	313	9	328	18
7:00 AM	296	89	302	65
8:00 AM	189	57	224	87
9:00 AM	108	77	125	80
10:00 AM	89	77	124	113
11:00 AM	83	90	84	149
12:00 PM	127	127	130	143
1:00 PM	160	157	135	132
2:00 PM	128	160	102	108
3:00 PM	101	225	90	215
4:00 PM	61	271	43	226
5:00 PM	52	168	46	197
6:00 PM	74	89	104	128
7:00 PM	48	108	35	152
8:00 PM	37	57	16	79
9:00 PM	16	24	18	43
10:00 PM	15	35	17	23
11:00 PM	8	34	9	40
SUBTOTAL	1,989	1,901	2,040	2,049
AM PEAK HOUR (Hospital)	6:30 AM-7:30 AM	390		429
AM PEAK HOUR (Street)	8:00 AM-9:00 AM	246		311
PM PEAK HOUR (Hospital)	3:00 PM-4:00 PM	338		305
PM PEAK HOUR (Street)	4:15 PM-5:15 PM	276		302
TOTAL DAILY VOLUME		3,890		4,089

for conducting the remainder of the study. It should be noted that although the hospital-generated traffic peaked during the 6:30-7:30 a.m. morning peak hour and between 3-4 p.m. during the evening peak hour, the peak hour turning movement traffic counts conducted at the 21 intersections in the study area indicate that overall, the traffic in the area has a morning peak hour between 8:00 and 9:00 a.m. and an evening peak hour between 4:30 and 5:30 p.m. For the purposes of this study, it was necessary to identify the traffic volumes generated by the hospital during these periods. As indicated in Table 9, the traffic volumes into and out of the hospital campus were 311 vph during the 8-9 a.m. morning peak hour and 302 vph during the 4:30-5:30 p.m. evening peak hour.

The actual counts for each of the driveways for each of the facilities is included in the appendix to this report.

## **ESTIMATING HOSPITAL TRIP GENERATION**

Data from the driveway counts discussed above was used to estimate the total traffic entering and exiting the hospital campus. These traffic volumes, however, do not represent the total volume of traffic generated by the hospital. As discussed in the analysis of the parking system, approximately 9% of the employee traffic and 55% of the customers park in on-street spaces in the neighborhood surrounding the hospital. Therefore, the adjusted traffic volumes summarized in Table 9 represents 91% (i.e., total minus 9% off site) of the total employee-generated traffic and 45% (i.e., total minus 55%) of the total customer traffic. It is necessary to adjust these volumes to reflect all of the hospital-generated traffic into and out of the study area. Based on data from the parking survey, the employee surveys and the customer surveys, it is estimated that 85% of the volumes in Table 9 is generated by employees and 15% by customers. After the appropriate adjustments, it is estimated that the actual total daily traffic generated by the hospital into and out of the study area is 5,235 vehicles per day. The same adjustments were made to develop peak hour traffic volumes that properly reflect the total volumes into and out of the study area that are generated by the hospital. These results, summarized in Table 10, indicate that during the peak hour of the hospital the volumes are 536 vph inbound and 50 vph outbound. The equivalent volumes for the evening hospital peak hour are 113 vph in and 321 vph out. The morning and peak hour traffic volumes generated by the hospital during the peak hours of the rest of the street

**TABLE 10**  
**EXISTING TRAFFIC VOLUMES INTO AND OUT OF STUDY AREA**

	Actual Driveway Count	Total Campus Traffic (Adjusted Driveway Counts)	Total Hospital Traffic (Adjusted Campus Traffic)
Daily Vehicle Trips	3,762	4,089	5,235
Hospital Peak (vph)			
AM Peak Hr			
IN	362	393	536
OUT	33	36	50
Total	395	429	586
PM Peak Hr			
IN	83	90	113
OUT	198	215	321
Total	281	305	434
Street Peak (vph)			
AM Peak Hr			
IN	206	224	358
OUT	80	87	113
Total	286	311	471
PM Peak Hr			
IN	34	37	50
OUT	244	265	399
Total	278	302	449

traffic are 358 vph in and 113 vph out during the morning peak hour and 50 vph in and 399 vph out during the evening peak hour.

## DEVELOPMENT OF TRIP GENERATION METHODOLOGY

Similar to the process used to develop the parking demand forecasting methodology, the previously discussed travel and parking data was used to estimate the implied traffic generation by each group or component of the hospital operation. Table 11 summarizes the procedures used in the development of the traffic generation forecasting methodology based on the operational components of the hospital incorporating the data from Tables 6 and 10 above. Using the current data on employee FTE and the number of patients and visitors at the hospital, the trip generation model for the hospital was developed. It can be seen that the daily trip generation factors from the model are as follows:

• Employees	2.2 trips/day
• Physicians	3.0
• Volunteers	1.9
• Outpatients (including ER)	1.8
• Inpatients	1.5
• Visitors	1.4
• Cancer Center	1.8

Using the above factors, a spreadsheet model was developed to forecast trip generation for the SBCH Seismic Compliance and Modernization Plan. It can be seen from the data in Table 11 that the model estimates that SBCH currently generates approximately 5,236 daily vehicle trips, about 471 vehicle trips during the a.m. peak hour of street traffic, and about 450 trips during the p.m. peak hour of street traffic.

A similar table has also been prepared to summarize the use of the model to develop traffic generation estimates that reflect the hospital peak hours. Although the daily traffic volumes are the same, the morning and evening peak hour traffic volumes are slightly higher during the hospital's peak hours as compared to the peak hours for the streets in the study area.

TABLE 11  
TRAFFIC GENERATION MODEL FOR COTTAGE HOSPITAL

COMPONENT/USER	Daily	Daily Rate *	DAILY TRIPS	AM PEAK HOUR TRIPS (8:00 a.m. - 9:00 a.m.)		PM PEAK HOUR TRIPS (4:15 p.m. - 5:15 p.m.)	
				IN	OUT	IN	OUT
<i>Existing Condition (Year 2003)</i>							
Employees (FTE)	1,666	2.2	3,662	166	89	14	260
Doctors	100	3.0	300	27	3	3	12
Volunteers	35	1.9	67	17	0	3	10
Outpatient Visits (not including ER)	151	1.8	269	32	0	1	10
ER Visits	71	1.5	108	3	2	2	2
Inpatient Visits (average beds occupied)	226	0.9	197	22	7	5	15
Visitors	339	1.4	483	17	7	19	15
Cancer Center Employees	70	2.2	153	73	4	4	73
Cancer Center Volunteers	4	1.9	7	2	0	0	2
Estimated Total Existing Trips			5,235	358	113	50	399
							449

Notes:

\* Empirical trip generation rates estimated from User Parking Surveys, observations, and various hospital department operational characteristics. See Appendix A for rate calculations.

## **V. ANALYSIS OF BASE ASSUMPTIONS**

The Santa Barbara Cottage Hospital currently operates at a level of activity that is below its service capacity, especially as it relates to the number of licensed beds the hospital is authorized to use. Within its current configuration, the hospital is capable of accommodating a higher number of patients, both outpatients and inpatients, and would need, in turn, an increased number of employees to accomplish this increased level of activity. There is an expectation that even if no changes were made to the hospital's physical plan, the number of patients needing and requesting services would increase and that they can be accommodated with modest renovations to the interior layout. This higher level of service that can be provided is the Baseline Capacity for the hospital. It represents the potential level of activity that the hospital can accommodate with no significant changes to its facility. The large majority of this future activity is expected to occur regardless of whether or not the proposed project is built.

### **BASELINE OPERATING ASSUMPTIONS**

The hospital provided a projection of the potential baseline operating assumptions that could exist at the hospital regardless of any changes to its physical plan. They are presented in a format similar to the existing conditions provided in Table 6. Table 12 provides a summary of these operating conditions. As indicated, the hospital is potentially capable of accommodating up to 46,300 outpatients as compared to the current level of 37,743 patients, 44,000 ER patients as compared to the current level of 25,786, and 33,684 inpatients as compared to the current level of 20,136. To accommodate this level of service, it would be necessary to increase the staffing to 1,938 employees as compared to the current level of 1,666 and 135 physicians as compared to the 100 currently on staff. The number of volunteers would be expected to increase to 47 per day as compared to the current level of 35 per day and the number of inpatient visitors would be expected to increase to 452 per day as compared to the current level of 339 per day. This can all be accomplished with the current available 456 licensed beds.

**TABLE 12**  
**OPERATIONAL COMPONENTS - BASELINE OPERATING ASSUMPTIONS**

Component/User	Baseline Capacity	Source/Comments
EMPLOYEES	1,938	SBCH 9/8/03. Estimated full-time equivalent (FTE)
Maximum FTE on-site	1,017	employees present on a daily basis.
DOCTORS	135	SBCH 9/8/03.
VOLUNTEERS	47	SBCH, 9/8/03. Baseline capacity of 47 volunteers per day
OUTPATIENT VISITS		
annual (not including ER)	46,300	SBCH 9/8/03.
average per day (not including ER)	185	Daily estimate based on annual/250 days.
annual ER visits	44,000	
average per day (ER visits)	121	Daily estimate based on annual/365 days. ER open 24 hours, 365 days/year.
INPATIENTS	33,684	SBCH 9/8/03.
beds licensed	456	State License from DHS.
average beds occupied	301	
average length of stay (days)	4	
INPATIENT VISITORS		
average per day @ 1.5 per inpatient	452	
CANCER CENTER		
employees	70	Cancer Center, 8/03. Daily employees on-site.
volunteers	35	Cancer Center, 8/03. Monthly volunteers on-site.



## **PARKING DEMAND AND TRAFFIC GENERATION FOR BASELINE ASSUMPTIONS**

The parking demand and traffic generation forecasting models were used to develop projections for the Baseline Assumptions at the hospital.

### **Parking Demand**

As summarized in Table 13, the total parking demand for the hospital under Baseline Assumptions is 1,411 spaces. This includes 1,050 spaces for employees and physicians, 295 spaces for patients and their visitors, and 66 spaces for the Cancer Center.

### **Traffic Generation**

Table 14 indicates that Baseline Assumptions at the hospital as defined in Table 12 would result in a total daily traffic of 6,323 trips per day, morning peak hour traffic of 557 vph and evening peak hour traffic of 528 vph.

## **ANALYSIS OF BASELINE ASSUMPTIONS**

The parking and traffic projections described above were analyzed to assess the potential conditions that would exist under the Baseline Assumptions at the hospital. The analysis does not reflect any realistic future scenario that is likely to occur, but does establish the baseline for consideration of future parking and traffic analyses for the hospital.

### **Parking Requirements**

The parking demand would result in a parking requirement of 1,595 spaces for the hospital. This is based on the expectation that in addition to the need for 1,411 spaces generated by its employees and customers, the hospital would need to provide 42 spaces for the Knapp Medical Office Building and 44 spaces for the Santa Barbara Rehabilitation Center, as shown in Table 15.

**TABLE 13**  
**PARKING DEMAND FOR BASELINE ASSUMPTIONS**

Component/User	Baseline Assumption	Future On-site During Peak Demand Period	Parking Demand Factor	Future Peak Parking Demand
EMPLOYEES	1,938			
Maximum FTE on-site	1,017	1017	0.90	915
DOCTORS	135	135	1.00	135
VOLUNTEERS	47	14	0.95	13
OUTPATIENT VISITS				
annual (not including ER)	46,300			
average per day (not including ER)	185	56	0.89	49
annual ER visits	44,000			
average per day (ER visits)	121	13	0.89	12
INPATIENTS	33,684			
beds licensed	456			
average beds occupied	301	271	0.60	163
INPATIENT VISITORS				
average per day @ 1.5 per inpatient	452	77	0.75	58
CANCER CENTER				
employees	70	70	0.90	63
volunteers	35	4	0.90	3
Total				1,411

TABLE 14

COMPONENT/USER	Daily	Daily Rate	DAILY TRIPS	AM PEAK HOUR TRIPS (8:00 a.m. - 9:00 a.m.)			PM PEAK HOUR TRIPS (4:15 p.m. - 5:15 p.m.)		
				IN	OUT	TOTAL	IN	OUT	TOTAL
<b>Baseline Assumptions</b>									
Employees (FTE)	1,938	2.2	4,249	193	104	297	16	303	319
Doctors	135	3.0	405	36	4	40	4	16	20
Volunteers	47	1.9	89	22	0	22	4	13	17
Outpatient Visits (not including ER)	185	1.8	330	40	0	40	1	12	13
ER Visits	121	1.5	185	4	3	7	4	4	8
Inpatient Visits (average beds occupied)	301	0.9	262	29	10	39	7	20	27
Visitors	452	1.4	643	23	10	33	25	20	45
Cancer Center Employees	70	2.2	153	73	4	77	4	73	77
Cancer Center Volunteers	4	1.9	7	2	0	2	0	2	2
Estimated Total Baseline Trips			6,323	422	135	557	65	463	528

**TABLE 15**  
**PARKING REQUIREMENTS FOR BASELINE ASSUMPTIONS**

Baseline Assumption Parking Components	Baseline Assumption Weekday Daytime Peak
Parking Demand for Baseline Assumptions	1,411
Knapp Medical Office Building	42
Santa Barbara Rehabilitation Center	<u>44</u>
Total Parking Requirement	1,497
Circulation and Inefficiency *	<u>98</u>
Parking Supply Goal	1,595

Notes:

- \* Circulation and inefficiency factor applied for 5% of employees and 10% of visitors/patients.

A contingency of 98 spaces was also added to the parking requirement to reflect the inefficiencies associated with circulating traffic in parking facilities and other issues.

### **Traffic Impact Analysis**

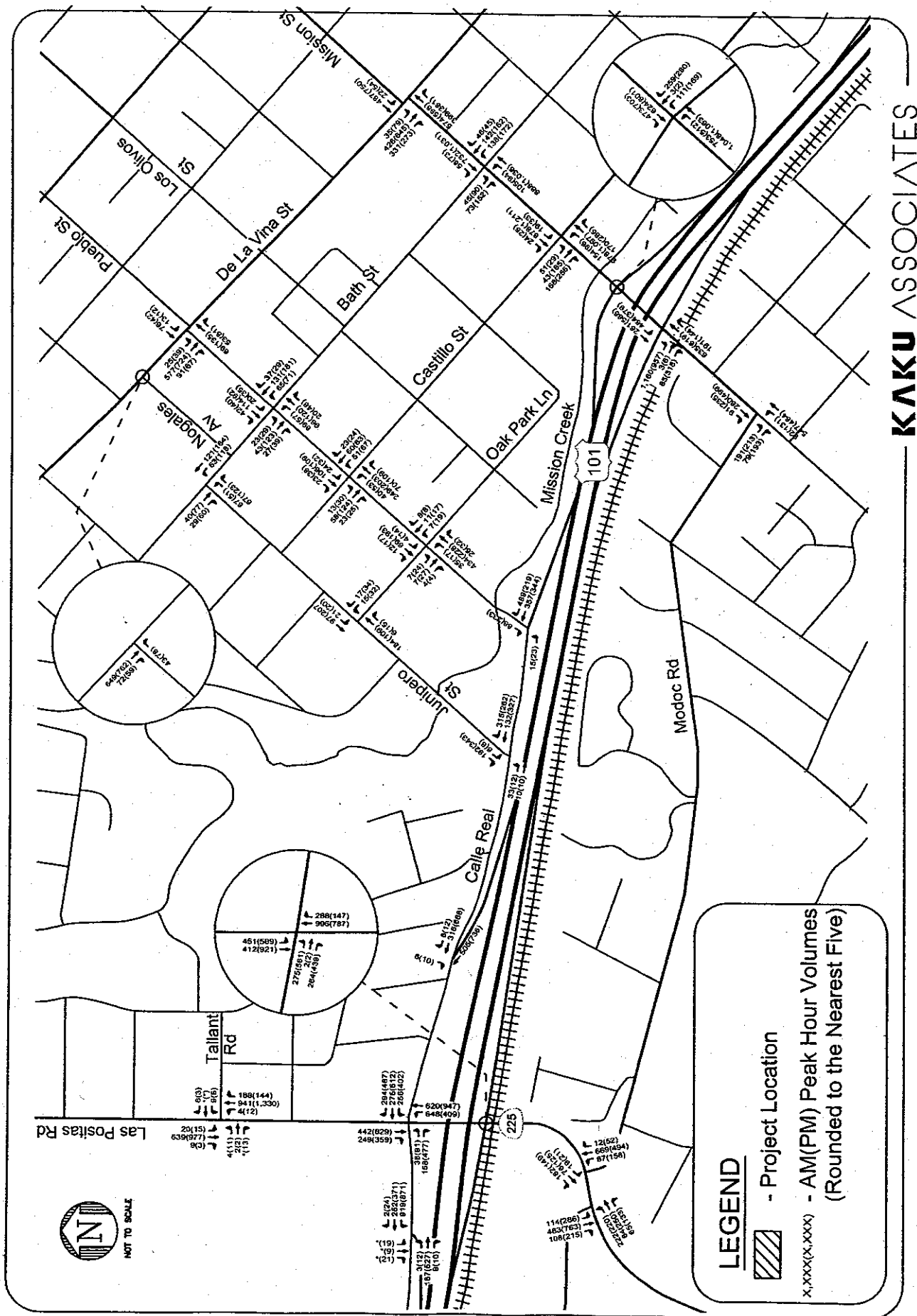
The impact of the increased traffic as reflected by the Baseline Assumptions was analyzed using techniques similar to those used to analyze existing conditions. The additional hospital traffic generated by the additional activities under the Baseline Assumption was proportionally added to the local street system using the assumption that all destinations (including the hospital parking lots) could accommodate these additional vehicles. Figure 12 illustrates these potential traffic volumes for the 21 intersections within the study area.

The volumes in Figure 12, which were analyzed using the same techniques used in the analysis of the Existing Conditions, result in operating conditions as summarized in Table 16. The results indicate that the additional traffic generated by the Baseline Assumptions would have an "impact" at several locations if it were to be viewed as project traffic. Table 16 indicates that three intersections would be significantly impacted using the City's criteria for significance. These are:

- Las Positas Road and Tallant Road
- Pueblo Street and De La Vina Street
- Mission Street and Modoc Road

### **IMPACT OF BASELINE ASSUMPTION**

The results of the analysis conducted for the Baseline Assumptions at the hospital indicate that the parking needs would increase by several hundred spaces and that the additional traffic would have significant impact at several intersections. The Baseline Assumption, however, is not a condition that is projected to occur by the hospital. Rather, it establishes a baseline from which a comparison can be made with future operating conditions of the hospital's parking system and the City's street system under future conditions that reflect parking demand and traffic generation consistent with operating conditions that the hospital



**KAKU ASSOCIATES**

**FIGURE 12**  
**TRAFFIC VOLUMES REFLECTING BASELINE ASSUMPTIONS**

**TABLE 16**  
**INTERSECTION LEVEL OF SERVICE ANALYSIS**  
**RESULTS OF TRAFFIC IMPACT ANALYSIS FOR BASELINE ASSUMPTIONS**

Intersection	Peak Hour	Baseline	
		V/C[a]/Delay[b]	LOS
1 US 101 NB On Ramp & * Las Positas Rd (Calle Real)	AM	0.590	A
	PM	0.692	B
2 Las Positas Rd & Tallant St	AM	39.1	E
	PM	91.3	F
3 Las Positas Rd & * Calle Real	AM	0.543	A
	PM	0.674	B
4 Las Positas Rd & * US 101 SB Ramps	AM	0.592	A
	PM	0.741	C
5 Las Positas Rd & * Modoc Rd	AM	0.456	A
	PM	0.601	B
6 US 101 NB Off Ramp/Las Positas Rd (at Calle Real/Leslie St)	AM	10.7	B
	PM	13.4	B
7 Junipero St & Bath St	AM	10.3	B
	PM	11.3	B
8 Junipero St & Oak Park Ln	AM	10.0	A
	PM	10.2	B
9 Junipero St & Calle Real	AM	10.0	A
	PM	16.1	C
	AM	0.504	
	PM	0.752	
10 Nogales Av De La Vina St	AM	10.6	B
	PM	11.3	B
11 Pueblo St & De La Vina St	AM	17.8	C
	PM	25.9	D
12 Pueblo St & Bath St	AM	9.7	A
	PM	10.8	B
	AM	0.335	
	PM	0.427	

**TABLE 16**  
**INTERSECTION LEVEL OF SERVICE ANALYSIS**  
**RESULTS OF TRAFFIC IMPACT ANALYSIS FOR BASELINE ASSUMPTIONS**  
**(Continued)**

Intersection	Peak Hour	Existing	
		V/C[a]/Delay[b]	LOS
13 Pueblo St & Castillo St	AM	10.2	B
	PM	11.2	B
	AM	0.471	
	PM	0.517	
14 Pueblo St & Oak Park Ln	AM	13.5	B
	PM	13.8	B
15 Pueblo St & Calle Real	AM	12.2	B
	PM	13.0	B
16 Mission St & * De La Vina St	AM	0.490	A
	PM	0.590	A
17 Mission St & * Bath St	AM	0.639	B
	PM	0.652	B
18 Mission St & * Castillo St	AM	0.648	B
	PM	0.689	B
19 Mission St & * US 101 NB Ramps	AM	0.726	C
	PM	0.746	C
20 Mission St & * US 101 SB Ramps	AM	0.637	B
	PM	0.708	C
21 Mission St & Modoc Rd	AM	23.5	C
	PM	31.9	D
		0.893	
		0.937	

**Notes:**

\* Signalized Intersections

[a] V/C ratios apply to signalized intersections only.

[b] Two-way stop-controlled intersections based on worst case delay (not V/C.) All-way stop-controlled intersections based on average delay (not V/C.)



expects will occur. These future conditions and their analysis are discussed in the subsequent sections of this report.

## **VI. FUTURE CONDITIONS**

In order to conduct an analysis of future conditions after the completion of the hospital master plan, it was necessary to develop an understanding of the projected operating conditions at the hospital, develop parking demand and traffic generation estimates reflecting future conditions, and to analyze these future conditions.

### **FUTURE HOSPITAL OPERATING CONDITIONS - 2013**

The hospital provided projections of future operating conditions after completion of the proposed master plan. These projections reflect future levels of activity at the hospital in Year 2013 consistent with the completion with all improvement proposed in the master plan. Table 17 summarizes the operational components under these future conditions. The total number of employees (FTE) is expected to increase by 28 FTE to accommodate the increased outpatient volume. However, the on-site FTE used in the analysis will decrease slightly to 1,572 because of the relocation of a total of 122 Knapp Building administrative and materials handling personnel ( $1,666 + 28 - 122 = 1,572$ ). The number of outpatients and ER patients is expected to increase to levels similar to those in the Baseline. The number of inpatients, however, is expected to remain the same as today's levels. The increase in outpatients with a corresponding leveling off of inpatients is similar to trends found in medical facilities throughout the U.S.

### **FUTURE PARKING DEMAND - 2013**

The data in Table 17 was used to develop parking demand estimates for future conditions with completion of the project. Table 18 summarizes the future 2013 parking demand consistent with the operation data provided in Table 17. Future parking demand for the hospital is projected to be 1,143 parking spaces in Year 2013. This includes 743 spaces generated by employees, 100 by physicians, 10 by volunteers, 224 by patients and their visitors, and 66 by the Cancer Center.

**TABLE 17**  
**OPERATIONAL COMPONENTS - FUTURE CONDITIONS**  
**WITH COMPLETION OF MASTER PLAN (2013)**

Component/User	Future (2013)	Source/Comments
EMPLOYEES Maximum FTE on-site	1,572 825	SBCH 9/8/03. Estimated full-time equivalent (FTE) employees present on a daily basis.
DOCTORS	100	SBCH 9/8/03.
VOLUNTEERS	35	SBCH, 9/8/03. Average of 35 volunteers per day. Volunteer works in 4 hour shifts, minimum of once/week per SBCH Volunteer Services.
OUTPATIENT VISITS annual (not including ER) average per day (not including ER) annual ER visits  average per day (ER visits)	 46,300 185 36,700  101	SBCH 9/8/03. Daily estimate based on annual/250 days.  Daily estimate based on annual/365 days. ER open 24 hours, 365 days/year.
INPATIENTS beds licensed average beds occupied average length of stay - 4 days	20,100 337 226	SBCH 9/8/03. State License from DHS.
INPATIENT VISITORS average per day @ 1.5 per inpatient	339	
CANCER CENTER employees volunteers	70 35	Cancer Center, 8/03. Daily employees on-site. Cancer Center, 8/03. Monthly volunteers on-site.

**TABLE 18  
FUTURE PARKING DEMAND (2013)**

Component/User	Future (2013)	Future On-site During Peak Demand Period	Parking Demand Factor	Future Peak Parking Demand
EMPLOYEES	1,572			
Maximum FTE on-site	825	825	0.90	743
DOCTORS	100	100	1.00	100
VOLUNTEERS	35	11	0.95	10
OUTPATIENT VISITS				
annual (not including ER)	46,300			
average per day (not including ER)	185	56	0.89	49
annual ER visits	36,700			
average per day (ER visits)	101	11	0.89	10
INPATIENTS	20,100			
beds licensed	337			
average beds occupied	226	203	0.60	122
average length of stay - 4 days				
INPATIENT VISITORS				
average per day @ 1.5 per inpatient	339	58	0.75	43
CANCER CENTER				
employees	70	70	0.90	63
volunteers	35	4	0.90	3
Total				1,143

## **FUTURE TRAFFIC PROJECTIONS - 2013**

In order to evaluate the potential impacts of the proposed project on the street system, it was necessary to develop estimates of future traffic conditions in the study area both with and without the project. Future traffic volumes were first estimated for the study area without the project. Future conditions without the project, the Cumulative Base traffic projections, normally include growth in traffic over existing conditions from two primary sources: growth in existing traffic volumes to reflect the effects of overall regional growth and development outside of the study area, and traffic generated by specific related development projects within or in the vicinity of the study area. These factors are described below.

### **Areawide Traffic Growth**

The background regional growth in traffic was estimated by adjusting the existing traffic volumes upwards using a growth factor. A factor of 1% per year was used in this analysis, based on general traffic volume growth suggested by the City of Santa Barbara. Using this growth rate, the existing year (2003) traffic volumes would be adjusted upwards by 10% to reflect ten years of background growth to Year 2013, at completion of the proposed project master plan.

### **Cumulative Projects Trip Generation**

Forecasts of the Cumulative Base traffic volumes were developed by adding the traffic expected to be generated by cumulative developments in the area to the existing traffic volumes. The City of Santa Barbara provided a list of projects within the study area that could be expected to have an effect on the analyzed locations. The list of cumulative projects that were included in the analysis is summarized in Table 19, while Figure 13 illustrates the general locations of these cumulative projects.

The estimated trip generation for each related project, as shown in Table 19, was prepared using standard trip generation rates/equations contained in the Institute of Transportation Engineers (ITE) *Trip Generation*, 6<sup>th</sup> Edition.

TABLE 19  
TRIP GENERATION ESTIMATES FOR RELATED PROJECTS

Project Name	Project Description	Project Location	ITE Code	Units	Daily Trips	AM Peak Hour Trips		PM Peak Hour Trips	
						Inbound	Outbound	Inbound	Outbound
1	3-1 Proposal to construct 1, 782 SFT Residential Unit	1828 BATH ST	230	1	6	0	0	0	0
2	3-2 Construct 3 new apartments on 3630 SFT lot	1935 BATH ST	230	3	18	0	1	1	1
3	3-4 Conversion of 632 SFT Residence to a 2 car garage and construct 2, 510 SFT two storey Residential unit	29 W CALLE LAURELES	230	5	29	0	2	2	1
4	4-4 Construction of 19 Condominium units including conversion of two existing duplex units	1611 CASTILLO ST	230	17	100	1	6	6	3
5	6-6 Demolish a 645 SFT garage to construct a new 600 SFT, second storey detached residential unit	1732 CHAPALA ST	230	1	6	0	0	0	0
6	8-1 Proposal to change two residential units at Encina Lodge Hotel to hotel units	2215 DE LA VINA ST	230	-2	-12	0	-1	-1	0
7	9-3 Proposal to construct a 3244 SFT two storey duplex	1734 GILLESPIE ST	231	2		0	1	1	1
8	10-3 To demolish 170 SFT one storey duplex and construct a 5752 SFT two-storey, multi-residential building resulting in 3 condominiums	1115 WISLAY ST	231	3		0	1	1	1
9	12-4 Proposal to construct a new 3450 SFT two-storey single family residence	1225 MANITOU LANE	230	1	6	0	0	0	0
10	14-4 To demolish 1304 SFT residential unit and construct a two storey triplex of 3634 SFT	2528 ORELLA ST	231	2		0	1	1	1
11	15-3 To demolish an existing single family residence and build six condominiums consisting of 3 two-bedroom units and 3 single family residence	319 W PEDREGOSA ST	230	6	35	0	2	2	1
12	15-6 Construction of two new condominiums	1402 SAN ANDRES ST	230	2	12	0	1	1	0
13	17-3 Proposal to demolish an existing 720 SFT commercial building and construct a mixed use building with 3481 SFT commercial use and 3 storey building with three apartments	3112 STATE ST	230	3	18	0	1	1	1
14	18-3 Proposal to construct two detached, two storey residential units	1924 BATH ST	210	2	19	0	1	1	1
15	23-2 To construct a three-storey single family residence	1611 CASTILLO ST	231	1		0	0	0	0
16	23-3 To construct a new three-unit residential building	1812 CASTILLO ST	230	3	18	0	1	1	1
17	24-6 Proposal to construct four duplex units	1819 DE LA VINA ST	231	4		1	2	2	1
18	25-1 Proposal to build 1, 734 SFT residential unit	2127 DE LA VINA ST	230	1	6	0	0	0	0
19	25-2 To demolish an existing single storey residence and build three two-storey condominiums.	2316 DE LA VINA ST	230	3	18	0	1	1	1

TABLE 19  
TRIP GENERATION ESTIMATES FOR RELATED PROJECTS

Project Name	Project Description	Project Location	ITE Code	Units	Daily Trips	AM Peak Hour Trips		PM Peak Hour Trips	
						Inbound	Outbound	Inbound	Outbound
20	25-3 To demolish an existing single family residence and construct a two-storey triplex	2420 DE LA VINA ST	231	2		0	1	1	1
21	25-4 To demolish an existing single family residence and build three two-storey single family condominiums.	2527 DE LA VINA ST	231	2		0	1	1	1
22	27-2 To construct a 1, 005 SFT residence	22 W ISLAY ST	230	1	6	0	0	0	0
23	29-5 Proposal for conversion of existing residential portion of a mixed use building to commercial use, to expand an existing day-care	509 W LOS OLIVOS ST	230	-1	-6	0	0	0	0
24	30-2 Proposal to build 3, 000 SFT two-storey residential unit	1223 MANITOU LN	230	1	6	0	0	0	0
25	30-5 Proposal for a 580 SFT studio unit and 413 SFT workshop	800 E MICHEL TORENA ST	230	1	6	0	0	0	0
26	30-6 Proposal to build 904 SFT residential unit on top of an existing commercial building.	14 W MICHEL TORENA ST	230	1	6	0	0	0	0
27	31-1 Proposal to build a two-storey residential building of 1945 SFT resulting in two units	315 W MISSION ST	230	2	12	0	1	1	0
28	31-2 Proposal for a lot merger of a 28 lot subdivision/ planned residential development resulting 18 units	2520 MODOC RD	230	18	105	1	7	7	3
29	32-4 Proposal to construct a 704 SFT second-storey addition resulting a single family residential unit	327 W PADRE ST	230	1	6	0	0	0	0
30	33-1 To construct three new residential units	318 W PEDREGOSA ST	230	3	18	0	1	1	1
31	33-2 Proposal to construct a 613 SFT second-storey addition resulting a single family residential unit	328 W PEDREGOSA ST	230	1	6	0	0	0	0
32	38-3 Proposed demolition of 8124 SFT existing facility and construction of a 17300 SFT social services building including a managers apartment	1701 CASTILLO ST	230	1	6	0	0	0	0
33	39-1 Conversion of 600 SFT of an existing single family residence to a secondary dwelling unit	2511 CHAPALA ST	210	1	10	0	1	1	0
34	To construct a two-unit condominiums	1708 DE LA VINA ST	231	2		0	1	1	1
35	44-1 Construction of a three-storey building resulting in two single family residential units.	19 E MISSION ST	231	2		0	1	1	1
36	44-2 Construction of a three-storey building resulting in single family residential unit.	109 W MISSION ST	231	1		0	0	0	0
37	44-6 Proposal to demolish an existing garage and laundry room facility and construct a 400 SFT studio residential unit	612 MULBERRY AVE	210	1	10	0	1	1	0

TABLE 19  
TRIP GENERATION ESTIMATES FOR RELATED PROJECTS

	Project Name	Project Description	Project Location	ITE Code	Units	Daily Trips	AM Peak Hour Trips		PM Peak Hour Trips	
							Inbound	Outbound	Inbound	Outbound
Non-Residential										
38	5-5	Proposal to change two residential units at Encina Lodge Hotel to hotel units	2215 DE LA VINA ST	502	3	25	1	1	1	1
39	26-3	Adding mini market to an existing service station	3060 STATE ST	[a]	819	10	0	0	0	0
40	26-5	Proposal for a 2, 450 SFT one-storey addition to the existing commercial building	3305 STATE ST	820	2450	105	2	1	4	5
41	26-5	Proposal for a 2, 680 SFT one-storey addition to the tenant space for Glenson's market	3305 STATE ST	820	2680	115	2	1	5	5
42	31-4	Proposal to demolish an existing 11,600 SFT facility for the Braille Institute and construct a new 18, 600 SFT two-storey facility.	2031 DE LA VINA ST	[b]	7000		5	8	8	5
43	31-5	Expand the existing day-care facility by 247 SFT	2121 DE LA VINA ST	565	247	20	2	0	2	2
TOTAL						741	21	50	58	39



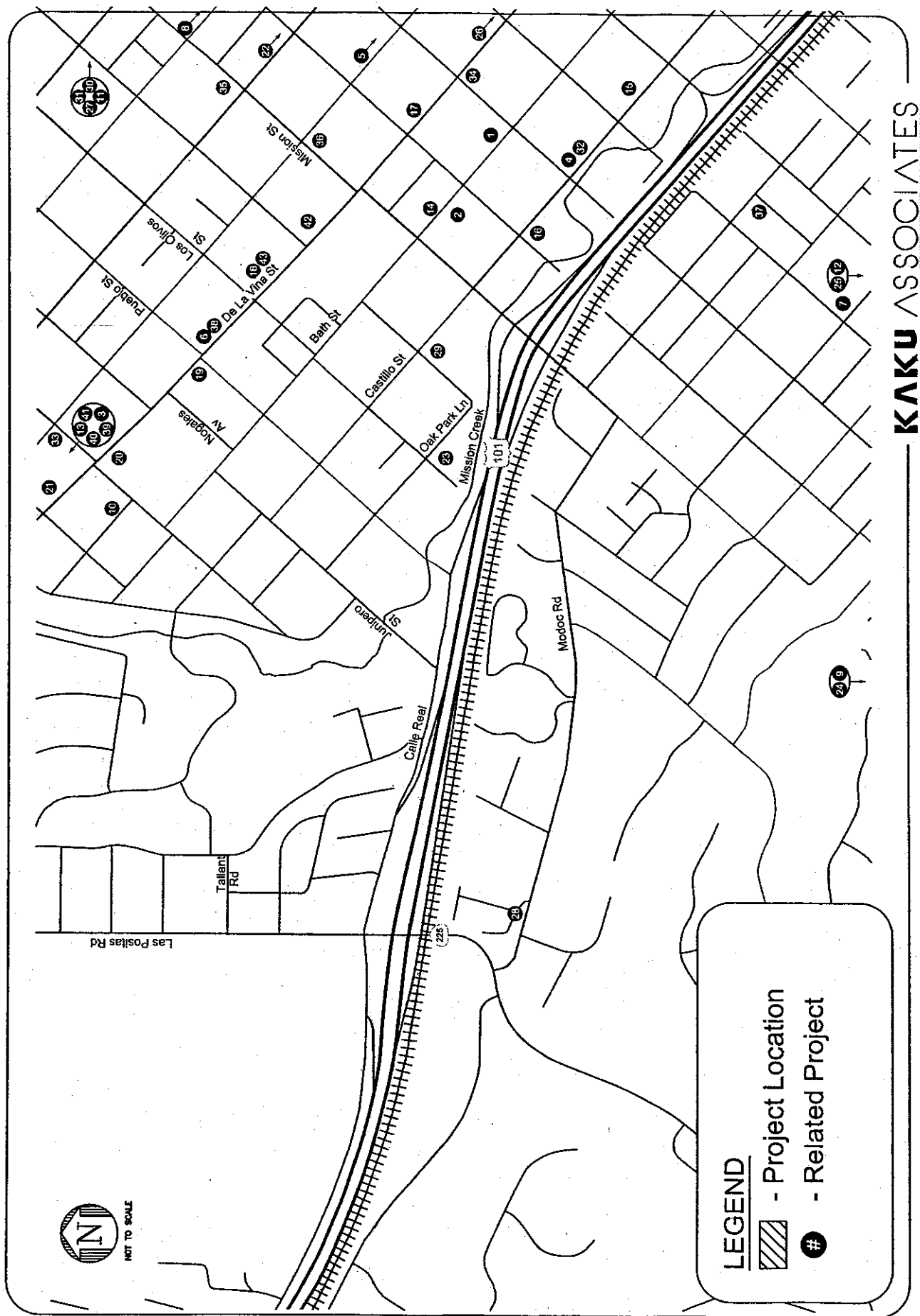


FIGURE 13  
LOCATIONS OF CUMULATIVE PROJECTS

The geographic distribution of traffic generated by developments such as those included in this analysis depends on several factors. These factors include the type and density of the proposed land uses, the geographic distribution of the population from which employees and/or patrons of proposed commercial developments may be drawn, the geographic distribution of activity centers (employment, commercial, and other) to which residents of proposed residential projects may be drawn, and the location of the project in relation to the surrounding street system. Trip distribution patterns were developed for each related project based on the above factors.

Table 19 indicates that, on a typical weekday, the 43 related projects are expected to generate a total of approximately 741 daily trips, of which 71 trips would occur during the morning peak hour and 97 trips would occur during the evening peak hour. The resulting traffic volumes at the 21 analyzed intersections are shown in Figure 14 and represent Cumulative Base conditions. This represents future conditions without the proposed project.

## **PROJECT TRIP GENERATION**

Similar to the process used in the development of traffic generation estimates for the Baseline Assumption, data from Table 17 was used to develop projections of future project traffic for year 2013 with the completion of the master plan. Table 20 summarizes the projected year 2013 trip generation estimates by component for the proposed project. The table indicates that the project is expected to generate a total of 5,137 daily trips, 466 a.m. peak hour trips, and 439 p.m. peak hour trips at completion of the SBCH master plan.

### **Trip Distribution**

A trip distribution pattern for hospital-generated traffic was developed based on consideration of the following factors:

- Geographic distribution of the zip codes of the residences of the existing SBCH staff who responded to staff survey
- Locations of existing and future campus access points and parking lots

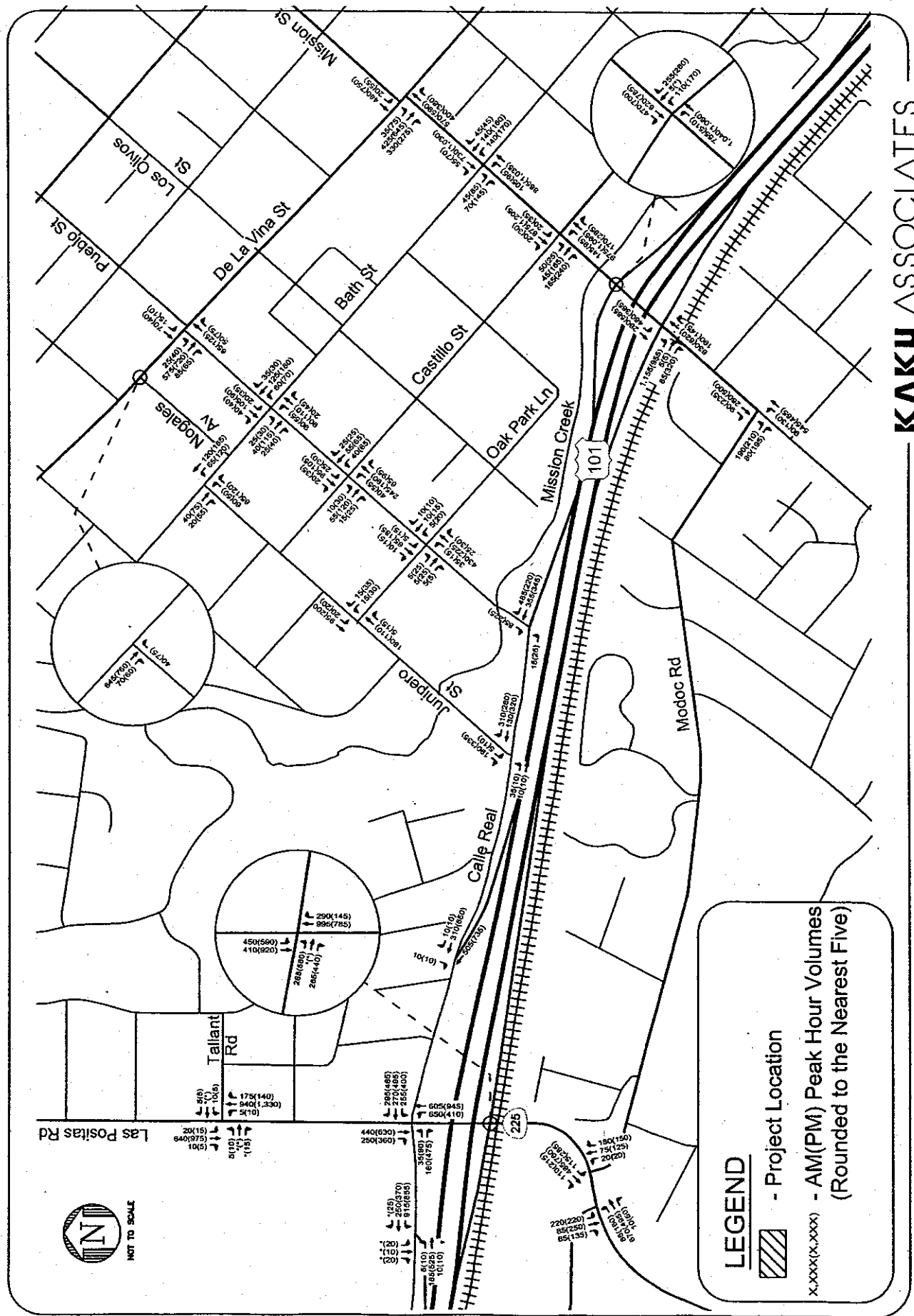


FIGURE 14  
CUMULATIVE BASE TRAFFIC PROJECTIONS

**TABLE 20  
FUTURE TRAFFIC PROJECTIONS FOR PROPOSED PROJECT**

COMPONENT/USER	Daily	Daily Rate	DAILY TRIPS	AM PEAK HOUR TRIPS (8:00 a.m. - 9:00 a.m.)			PM PEAK HOUR TRIPS (4:15 p.m. - 5:15 p.m.)		
				IN	OUT	TOTAL	IN	OUT	TOTAL
<i>Future Condition (Year 2013)</i>									
Employees (FTE)	1,572	2.2	3,446	157	84	241	13	246	258
Doctors	100	3.0	300	27	3	30	3	12	15
Volunteers	35	1.9	67	17	0	17	3	10	13
Outpatient Visits (not including ER)	185	1.8	330	40	0	40	1	12	13
ER Visits	101	1.5	154	4	2	6	3	3	6
Inpatient Visits (average beds occupied)	226	0.9	197	22	7	29	5	15	20
Visitors	339	1.4	483	17	7	24	19	15	34
Cancer Center Employees	70	2.2	153	73	4	77	4	73	77
Cancer Center Volunteers	4	1.9	7	2	0	2	0	2	2
Estimated Total Future Trips			5,136	357	108	466	51	387	438

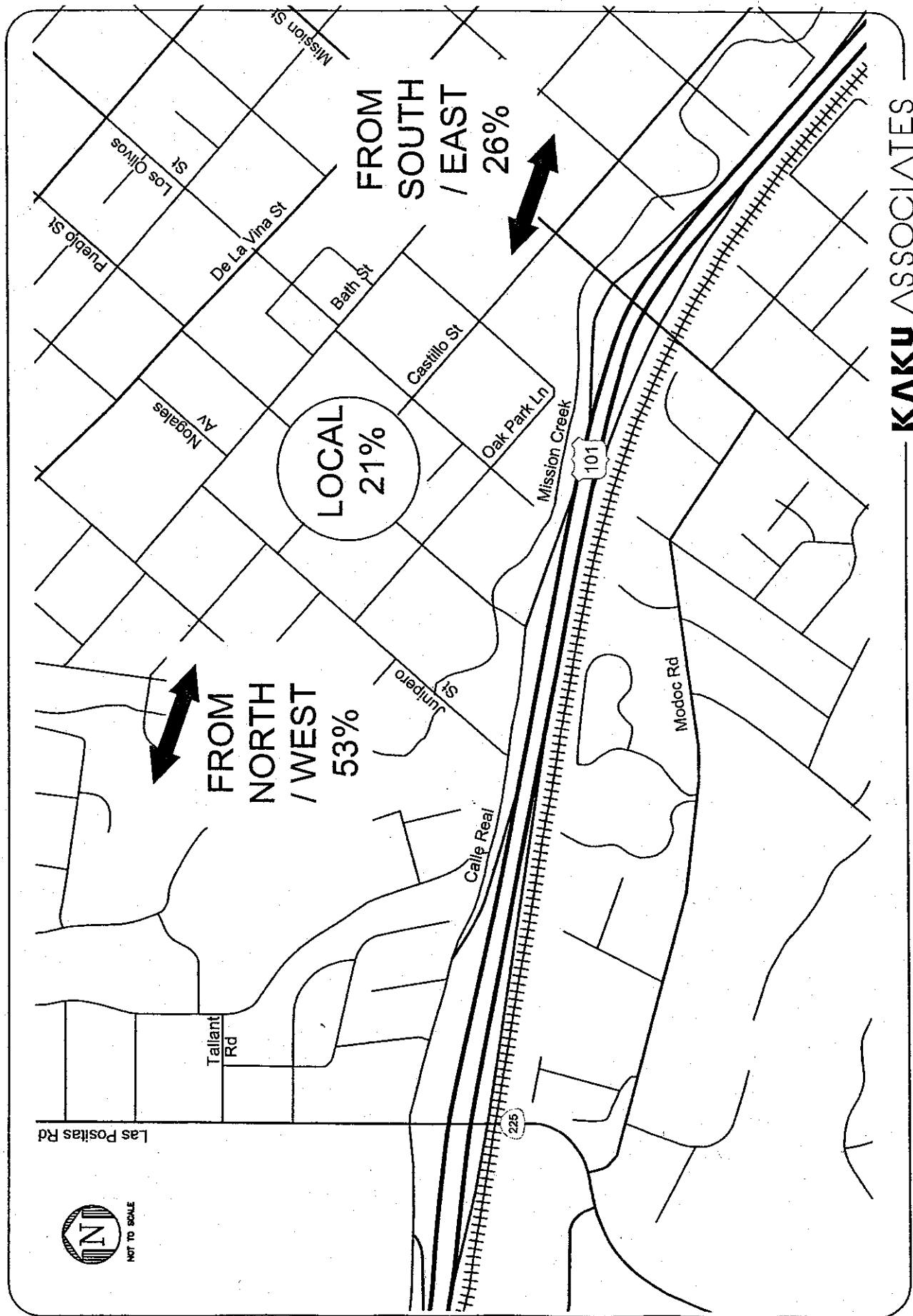
- Traffic patterns implied by the existing volumes and turning movements at the campus access points on Bath Street, Pueblo Street, Junipero Street, and Castillo Street

The latter served as an indication of both the existing pattern of traffic flow for vehicles accessing the campus between the various entrances and exits. The zip code data for SBCH staff is summarized in Appendix A. The regional trip distribution pattern developed for the hospital is illustrated in Figure 15, reflecting the various factors considered above.

### **Project Traffic Assignment**

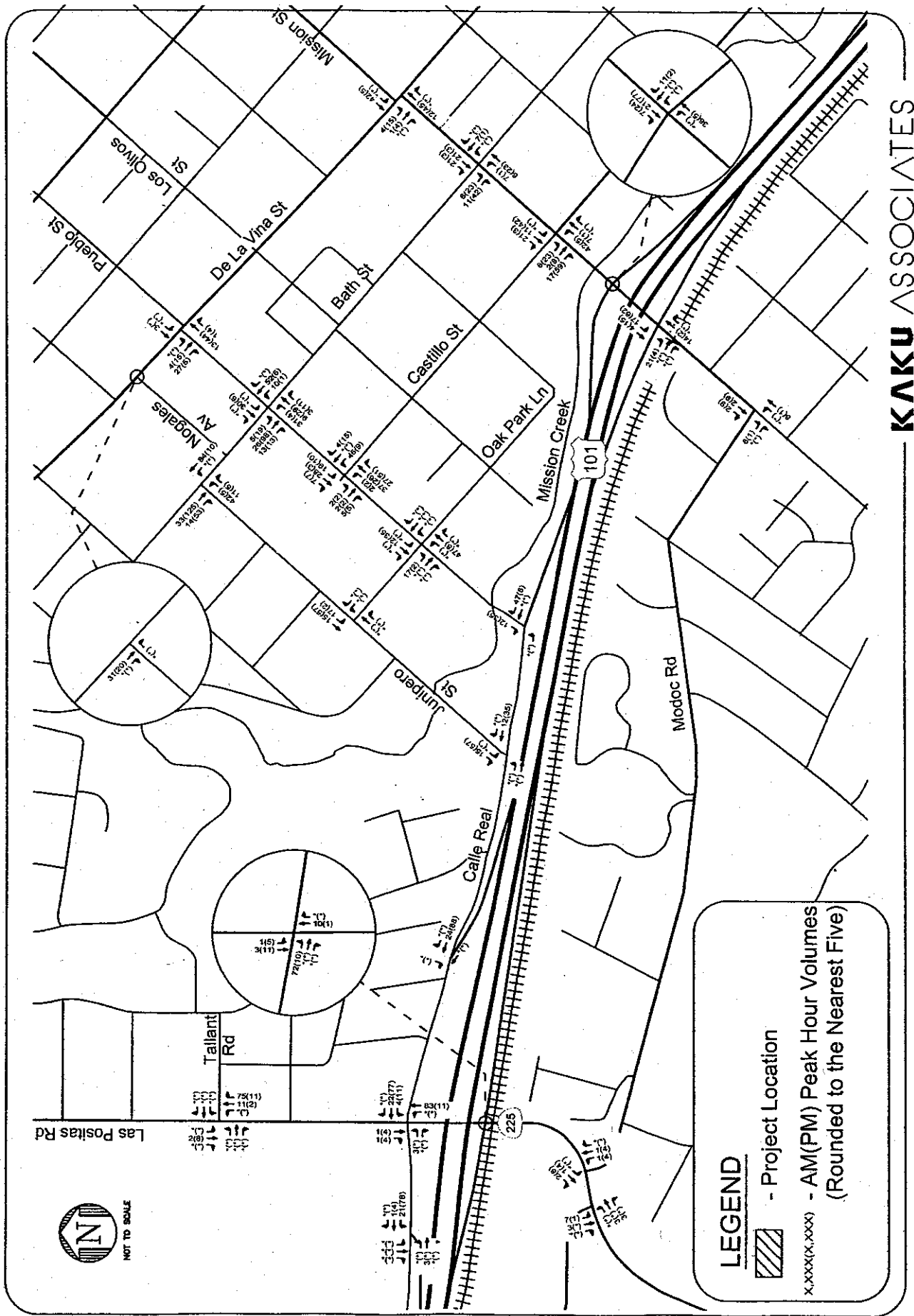
As illustrated in Figure 2, the proposed project includes the proposed abandonment of the portion of Castillo Street from Pueblo Street to Junipero Street. The figure also indicates that the current parking system that includes up to 14 separate facilities would be replaced by a system of two new parking structures and a reduced number of small lots. Therefore, the assignment of project-generated traffic volumes to the local street system required a series of steps to reflect properly all the changes in traffic patterns that would result from the implementation of the master plan. Unlike typical development projects, the incremental increase in traffic could simply be added to the Cumulative Base.

For the Cottage Hospital project, it was first necessary to delete the current hospital traffic reflecting existing operation conditions from the Cumulative Base traffic volumes. Then the new hospital traffic reflecting the future operational conditions was added to the cumulative base traffic projections to yield the cumulative plus project traffic forecasts. Figure 16 illustrates the project-only traffic assigned to the modified street system with the proposed closure of a portion of Castillo Street. Figure 17 illustrates the Cumulative Plus Project 2013 traffic projections, the Future With Project condition.



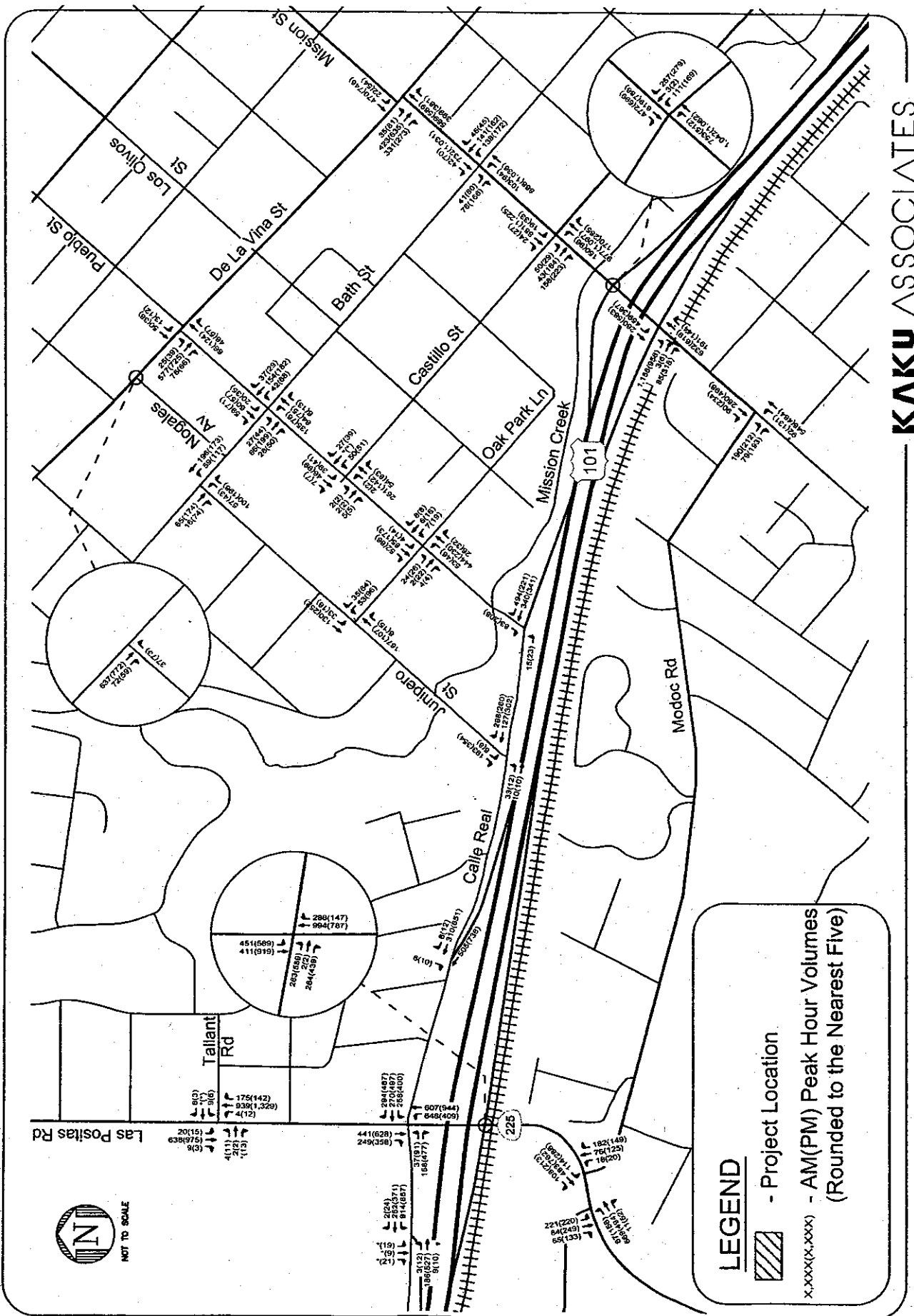
**KAKU ASSOCIATES**

**FIGURE 15**  
**TRIP DISTRIBUTION PATTERN**



**KAKU ASSOCIATES**

**FIGURE 16**  
**FUTURE PROJECT TRAFFIC - 2013**



**KAKU ASSOCIATES**

**FIGURE 17**  
**CUMULATIVE PLUS PROJECT TRAFFIC - 2013**



## **VII. ANALYSIS OF FUTURE CONDITIONS**

The analysis of future conditions includes an assessment of the future parking requirements and comparisons to the proposed parking system after completion of the master plan.

### **ANALYSIS OF FUTURE PARKING REQUIREMENTS**

The future parking demand estimates developed and summarized in Table 18 were used to estimate the future parking requirements for the hospital. As illustrated in Table 21, the future requirement is 1,229 spaces. This projected requirement for the future supply of off-street parking for the hospital includes a hospital generated demand of 1,143 spaces, 42 spaces for the Knapp Medical Office Building, and 44 spaces for the Santa Barbara Rehabilitation Center. The table includes an additional 79 spaces to answer the need to address the circulation and inefficiency requirements for most parking systems. This results in a total goal for the hospital parking system of 1,308 spaces.

Table 22 has been prepared to summarize the planned parking supply for the Cottage Hospital under the new master plan. It indicates that a total of 1,289 off-street parking spaces would be provided after completion of all phases of the project. This total supply is adequate to satisfy the parking requirement of 1,229 spaces as identified in Table 21. Although it is slightly less than the overall goal of 1,308 spaces, the system should adequately accommodate the future requirements of the hospital.

### **TRAFFIC IMPACT ANALYSIS**

The analysis of the potential impacts of the traffic generated after completion of the Santa Barbara Cottage Hospital Seismic Compliance and Modernization Plan on the local street system is discussed below.

**TABLE 21**  
**FUTURE PARKING REQUIREMENTS (2013)**

Future Parking Components	Future Condition (2013) Weekday Daytime Peak
Future Peak Parking Demand	1,143
Knapp Medical Office Building	42
Knapp Rehabilitation Center	<u>44</u>
<b>Total Parking Requirement</b>	<b>1,229</b>
Circulation and Inefficiency *	<u>79</u>
Parking Supply Goal	1,308

Notes:

- \* Circulation and inefficiency factor applied for 5% of employees and 10% of visitors/patients.

**TABLE 22**  
**PLANNED PARKING SUPPLY FOR SBCH**

PARKING LOCATION [a]	No. of Spaces
Parking Structure #1 (Knapp on Bath St)	555
Parking Structure #2 (Pueblo/Castillo)[b]	630
Lot #7 (Day Care Center)	22
Emergency Department (Junipero)	50
Service Loading Area (Junipero/Oak Park Ln)	5
Bath Lobby Entry	10
Fletcher Medical Office Building	<u>12</u>
Total Planned Parking Supply	1,284

**Notes:**

[a] LBL Proposed Parking Plan.

[b] Includes 44 spaces for Knapp Rehabilitation Center and 42 spaces for Knapp Medical Office Building.

### **Significant Traffic Impact Criteria**

The City of Santa Barbara has established that the minimum acceptable level of service for intersections in the city is LOS C (i.e., a volume/capacity ratio of 0.77 or better). Per the City's guidelines, on a cumulative level, if the volume/capacity ratio of an intersection exceeds 0.77 and a project adds any volume of traffic to this intersection, then the project would result in a cumulative traffic impact.

As mentioned in Chapter II, the level of service at signalized intersections is determined based on V/C ratio while the level of service at stop-controlled intersections is determined based on average delay. For the purposes of application of the City of Santa Barbara significance criteria, V/C ratio was used to determine whether the 0.77 threshold has been exceeded for signalized intersections. For stop-controlled intersections, determination of significant impact was based on LOS D or worse.

### **Analysis of Cumulative Base Conditions**

The Cumulative Base traffic volumes, illustrated in Figure 14, were analyzed to determine the level of service for each of the analyzed intersections. Table 23 summarizes the results of this analysis. As indicated in the table, the intersection of Las Positas Road/Tallant Road is projected to operate at unacceptable levels (LOS D, E, or F) during one or both peak hours. All the other locations are projected to operate at acceptable levels (LOS C or better) during the morning and evening peak hours.

### **Analysis of Cumulative Plus Project Conditions**

The Cumulative Plus Project traffic volumes, illustrated in Figure 17, were analyzed to determine the projected future operating conditions with the proposed project. The results of the Cumulative Plus Project analyses are presented in Table 23.

As indicated in Table 23, two of the analyzed intersections are projected to operate at unacceptable levels (LOS D, E, or F) during one or both peak hours. These intersections are Las

TABLE 23  
INTERSECTION LEVEL OF SERVICE ANALYSIS  
EXISTING, CUMULATIVE BASE AND CUMULATIVE NET PLUS PROJECT CONDITIONS

Intersection	Peak Hour	Existing		Cumulative Base		Cumulative Plus Project		Significant Project Impact
		V/C[a]/Delay[b]	LOS	V/C[a]/Delay[b]	LOS	V/C[a]/Delay[b]	LOS	
1 US 101 NB On Ramp & * Calle Real	AM PM	0.532 0.620	A B	0.587 0.684	A B	0.587 0.684	A B	NO NO
2 Las Positas Rd & Tallant St	AM PM	31.9 59.4	D F	38.6 90.7	E F	38.6 90.7	E F	NO NO
3 Las Positas Rd & * Calle Real	AM PM	0.492 0.611	A B	0.543 0.673	A B	0.543 0.673	A B	NO NO
4 Las Positas Rd & * US 101 SB Ramps	AM PM	0.532 0.671	A B	0.586 0.740	A C	0.586 0.740	A C	NO NO
5 Las Positas Rd & * Modoc Rd	AM PM	0.413 0.546	A A	0.455 0.600	A A	0.455 0.600	A A	NO NO
6 Leslie St/US 101 NB Off Ramp Calle Real	AM PM	10.4 12.6	B B	10.7 13.3	B B	10.7 13.3	B B	NO NO
7 Junipero St & Bath St	AM PM	9.9 10.7	A B	10.1 11.1	B B	10.6 12.6	B B	NO NO
8 Junipero St & Oak Park Ln	AM PM	9.7 9.9	A A	9.9 10.1	A B	10.8 11.6	B B	NO NO
9 Junipero St & Calle Real	AM PM AM PM	9.3 13.1 0.445 0.657	A B A A	9.9 15.5 0.497 0.737	A C A A	9.7 15.1 0.484 0.725	A C A C	NO NO NO NO
10 Nogales Av De La Vina St	AM PM	10.3 10.9	B B	10.5 11.3	B B	10.5 11.3	B B	NO NO
11 Pueblo St & De La Vina St	AM PM	15.8 19.8	C C	17.4 24.5	C C	16.2 23.9	C C	NO NO
12 Pueblo St & Bath St	AM PM AM PM	9.100 9.900 0.282 0.367	A A A A	9.500 10.600 0.320 0.418	A B A A	9.800 11.200 0.330 0.422	A B A B	NO NO NO NO

**TABLE 23**  
**INTERSECTION LEVEL OF SERVICE ANALYSIS**  
**EXISTING, CUMULATIVE BASE AND CUMULATIVE NET PLUS PROJECT CONDITIONS**  
**(Continued)**

Intersection	Peak Hour	Existing		Cumulative Base		Cumulative Net Plus Project		Significant Project Impact
		V/C[a]/Delay[b]	LOS	V/C[a]/Delay[b]	LOS	V/C[a]/Delay[b]	LOS	
13 Pueblo St & Castillo St	AM	9.4	A	9.9	A	8.9	A	NO
	PM	10.0	A	10.7	B	8.3	A	NO
	AM PM	0.395 0.418		0.448 0.477		0.358 0.285		
14 Pueblo St & Oak Park Ln	AM	12.7	B	13.3	B	15.1	C	NO
	PM	12.9	B	13.7	B	15.1	C	NO
15 Pueblo St & Calle Real	AM	11.6	B	12.1	B	11.9	B	NO
	PM	12.1	B	12.9	B	12.7	B	NO
16 Mission St & De La Vina St	AM	0.439	A	0.489	A	0.488	A	NO
	PM	0.509	A	0.586	A	0.584	A	NO
17 Mission St & Bath St	AM	0.576	A	0.638	B	0.641	B	NO
	PM	0.704	C	0.648	B	0.660	B	NO
18 Mission St & Castillo St	AM	0.556	A	0.633	B	0.637	B	NO
	PM	0.613	B	0.680	B	0.668	B	NO
19 Mission St & US 101 NB Ramps	AM	0.652	B	0.722	C	0.722	C	NO
	PM	0.688	B	0.745	C	0.745	C	NO
20 Mission St & US 101 SB Ramps	AM	0.571	A	0.633	B	0.633	B	NO
	PM	0.638	B	0.706	C	0.706	C	NO
21 Mission St & Modoc Rd	AM	17.5	C	23.3	C	23.3	C	NO
	PM	22.0	C	31.7	D	31.7	D	NO
		0.784 0.815		0.890 0.934		0.890 0.934		

Notes:

\* Signalized Intersections

\*\* Significant Impact for Cumulative Net+Baseline conditions based on LOS D or worse.

[a] V/C ratios shown for signalized intersections.

[b] Two-way stop-controlled intersections based on worst case delay (not V/C.) All-way stop-controlled intersections based on average delay (not V/C.)

Positas Road/Tallant Road and Mission Street/Modoc Road. Application of the previously described City of Santa Barbara significance criteria indicates that the proposed project would not have significant impacts at any of the 21 analyzed intersections during either the a.m. or p.m. peak hours. As shown in Table 23, no project trips were added to these intersections. The unacceptable levels of service projected for these locations are due to cumulative developments within the City of Santa Barbara.

One potential impact of the proposed project may result from the closure of Castillo Street and consolidation of the hospital's parking into two new structures. These two elements of the Santa Barbara Cottage Hospital Seismic Compliance and Modernization Plan may result in additional traffic using streets and intersections closest to these new parking facilities. Intersections in the study area most likely to be affected by these changes include the intersections of Bath Street/Junipero Street, Bath Street/Pueblo Street, and Castillo Street/Pueblo Street. A review of the results of the traffic impact analysis for these locations indicates that the level of services changes from LOS A to LOS B at two of the intersections as a result of the completion of the proposed project. Neither is impacted, however, by the implementation of the project. The potential impact of the closure of Castillo Street was analyzed in more specific detail and the results are summarized below.

## **ANALYSIS OF PROPOSED CLOSURE OF CASTILLO STREET**

As discussed above, an integral element of the Santa Barbara Cottage Hospital Seismic Compliance and Modernization Plan is the proposed closure of Castillo Street from Pueblo Street to Junipero Street. The traffic impact analysis of the project includes a detailed assessment of the streets and intersections adjacent to this segment of Castillo Street. Issues addressed in the analysis include traffic and circulation impacts and impacts on pedestrian circulation within the residential neighborhood.

The study intersections for this analysis include the following locations:

- Junipero Street/Bath Street
- Junipero Street/Oak Park Lane
- Nogales Avenue/De La Vina Street
- Pueblo Street/De La Vina Street

- Pueblo Street/Bath Street
- Pueblo Street/Castillo Street
- Pueblo Street/Oak Park Lane

### **Conditions Before Closure of Castillo Street**

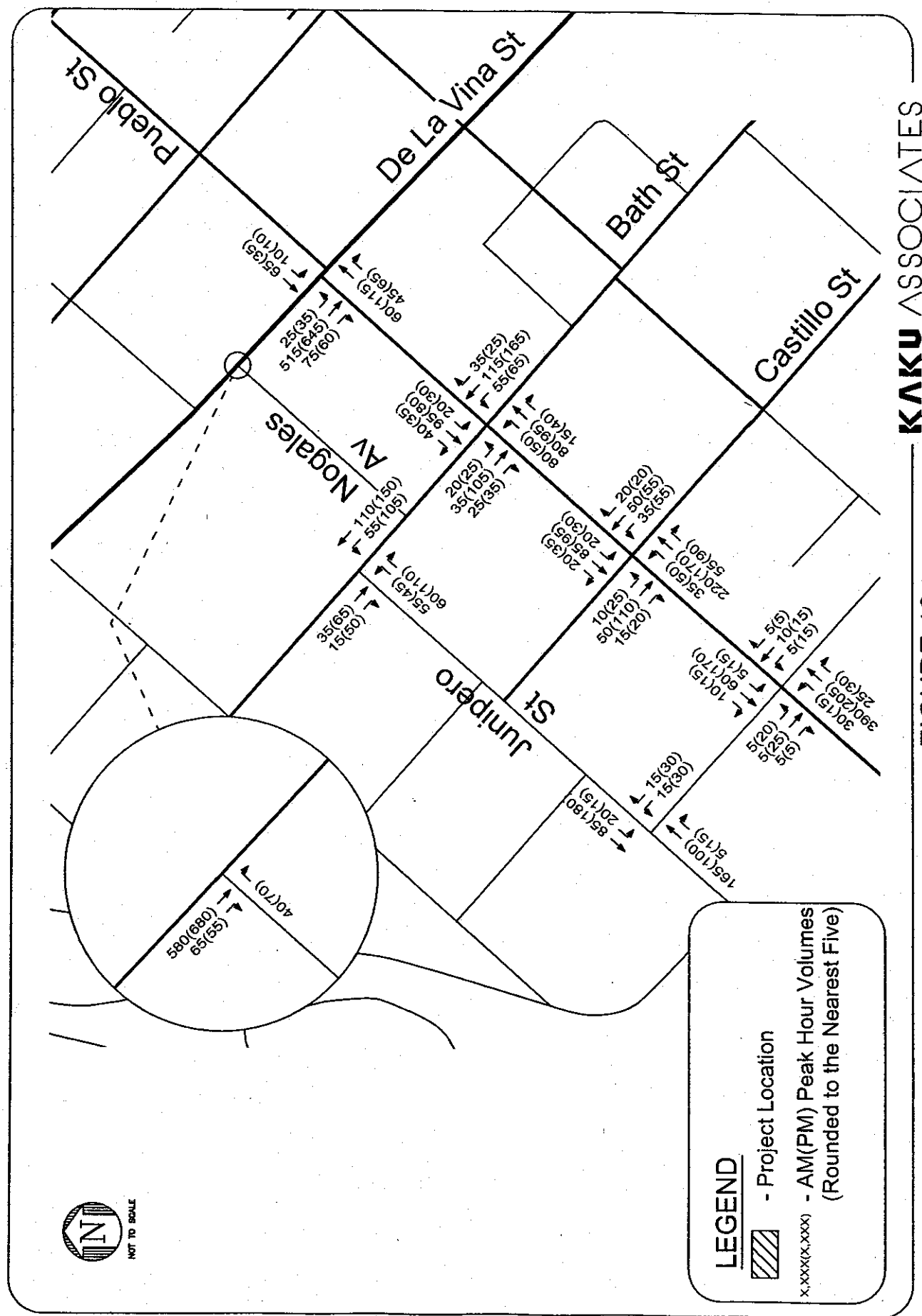
The assessment of the conditions before the proposed closure of Castillo Street includes an analysis of the operating conditions at the seven locations identified above and the level of pedestrian activity experienced on the street.

**Traffic Operating Conditions.** The traffic conditions previously discussed as part of the analysis of Existing Conditions for the overall study area were used for the Castillo Street study area to reflect traffic conditions before the proposed closure of the street. Figure 18 illustrates the existing turning movement traffic counts for the a.m. and p.m. peak hours for the seven intersections in the Castillo Street study area. As summarized below, the analysis of the operating conditions at these seven intersections indicate that they all operate at LOS C or better during both peak hours under these "before" conditions.

<u>Intersection</u>	<u>Level of Service</u>	
	<u>AM Peak Hour</u>	<u>PM Peak Hour</u>
Junipero Street/Bath Street	A	B
Junipero Street/Oak Park Lane	A	A
Nogales Avenue/De La Vina Street	B	B
Pueblo Street/De La Vina Street	C	C
Pueblo Street/Bath Street	A	A
Pueblo Street/Castillo Street	A	A
Pueblo Street/Oak Park Lane	B	B

**Pedestrian Volumes.** Pedestrian counts were conducted on Castillo Street on Thursday August 28, 2003. These counts, which were conducted between 10:00 a.m. and 6:00 p.m., were used to determine the level of pedestrian activity that currently exists on Castillo Street between Pueblo Street and Junipero Street during a typical weekday during normal business hours. This data, which is summarized in Table 24, provides the total number of pedestrians that travel on Castillo





**TABLE 24**  
**EXISTING PEDESTRIAN VOLUMES ON CASTILLO STREET**

Time	Westbound			Eastbound			Total Hourly Pedestrian Traffic	Pedestrian Through Traffic	Through Traffic as Percentage of Total
	From Pueblo St to Hospital	From Hospital to Junipero St	From Pueblo St to Junipero St	From Junipero St to Hospital	From Hospital to Pueblo St	From Junipero St to Pueblo St			
10:00 AM	25	23	5	22	24	2	101	7	7%
11:00 AM	28	14	13	34	34	2	125	15	12%
12:00 PM	16	29	12	31	32	2	122	14	11%
1:00 PM	18	22	11	15	35	0	101	11	11%
2:00 PM	15	17	8	33	12	4	89	12	13%
3:00 PM	13	14	5	22	10	3	67	8	12%
4:00 PM	8	3	3	7	5	6	32	9	28%
5:00 PM	8	10	7	4	8	0	37	7	19%
8-Hour Total	131	132	64	168	160	19	674	83	12%

Source: Pedestrian count conducted on Thursday, August 28, 2003 by Kaku Associates, Inc.

Street in each direction at Pueblo Street and at Junipero Street. The table separates the pedestrian activity into six categories:

**Westbound:**

1. Those who traveled westbound from Pueblo Street and had a destination in the hospital
2. Those who traveled westbound from a destination in the hospital to Junipero Street
3. Those who traveled westbound from Pueblo Street through to Junipero Street

**Eastbound:**

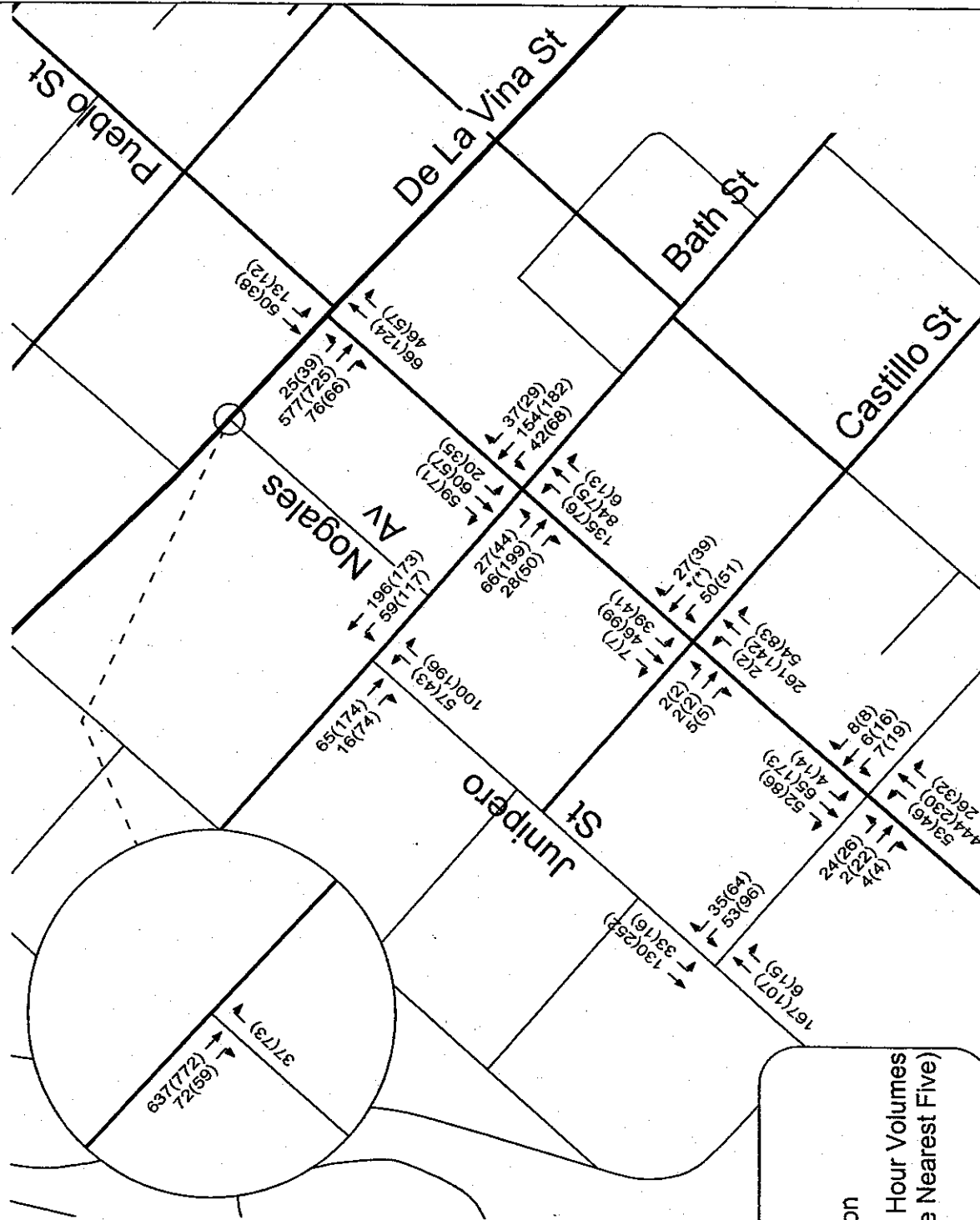
4. Those who traveled eastbound from Junipero Street and had a destination in the hospital
5. Those who traveled eastbound from a destination in the hospital to Pueblo Street
6. Those who traveled eastbound from Junipero Street through to Pueblo Street.

The pedestrian counts indicate that the peak level of activity occurs between 11 a.m. and 12 p.m. when approximately 125 pedestrians are utilizing Castillo Street.

**Conditions After Closure of Castillo Street**

Figure 19 illustrates the future peak hour volumes for the seven intersections with closure of this portion of Castillo Street and with the completion of the proposed project. The data in the figure indicates that although the overall hospital-generated traffic is not expected to increase by Year 2013, peak hour traffic volumes at six of the seven intersections (excluding the intersection of Pueblo Street and Castillo Street) are projected to increase under this future "after" scenario. The increase results from the diversion of traffic from the street closure and the consolidation of parking supply in the two parking structures.

The analysis of the seven locations, which are summarized below, shows that the levels of service at the seven intersections are all projected to continue operating at LOS C or better after the street closure:



**LEGEND**

- Project Location
- x,xxx(x,xxx) - AM(PM) Peak Hour Volumes (Rounded to the Nearest Five)

**KAKU ASSOCIATES**

**FIGURE 19**  
**PEAK HOUR TRAFFIC VOLUMES AFTER CASTILLO STREET CLOSURE**  
**(CUMULATIVE PLUS PROJECT CONDITIONS)**

<u>Intersection</u>	<u>Level of Service</u>	
	<u>AM Peak Hour</u>	<u>PM Peak Hour</u>
Junipero Street/Bath Street	B	B
Junipero Street/Oak Park Lane	B	B
Nogales Avenue/De La Vina Street	B	B
Pueblo Street/De La Vina Street	C	C
Pueblo Street/Bath Street	A	B
Pueblo Street/Castillo Street	A	A
Pueblo Street/Oak Park Lane	C	C

### **Analysis of Future Conditions with Closure of Castillo Street**

**Impact on Traffic Operating Conditions.** The future traffic volumes illustrated in Figure 19 include growth resulting from the addition of traffic generated by the list of related projects discussed above, the 1% per year growth factor, and the implementation of the SBCH Seismic Compliance and Modernization Plan. Even with this added traffic, all of the intersections are expected to operate at LOS C or better in Year 2013. Therefore, the proposed closure of Castillo Street from Pueblo Street to Junipero Street would not have a significant impact on the operation of the study area intersections.

**Impact on Pedestrian Travel.** The results of the analysis indicate that the proposed closure of Castillo Street from Pueblo Street to Junipero Street would impact about 83 pedestrians on a typical eight-hour workday. This is 12% of the 674 total pedestrians who travel on Castillo Street during a typical weekday. A few of the 83 pedestrians going through Castillo Street were observed to walk to their parked vehicles along Pueblo and Junipero Streets. The proposed closure of the one-block portion of Castillo Street is projected to add about 900 feet to the overall travel length of the 12% of the pedestrians.

## **VIII. MITIGATION MEASURES**

As indicated above and illustrated in Table 23, the proposed project is not expected to have any significant impacts at any of the project intersections. Therefore, no mitigation measures are necessary.

## IX. SUMMARY AND CONCLUSIONS

The Santa Barbara Cottage Hospital Seismic Compliance and Modernization Plan proposes to seismically upgrade through replacement while modernizing the facilities to serve the public better. The project would be constructed in phases through 2013 and result in the demolition of portions of the existing hospital building, renovation of the remaining facilities and construction of new nursing pavilions and diagnostic and treatment buildings on the existing site and on the adjacent block. The hospital's goals are to comply with the Alquist Hospital Seismic Safety Act, to upgrade its facilities to meet current hospital codes, and to improve parking and site conditions. The portion of Castillo Street between Pueblo and Junipero Streets would be abandoned to accommodate the new medical facility construction. The existing 888-space parking supply would be increased to approximately 1,289 spaces. The majority of the existing hospital parking facilities would be demolished and two new parking structures are proposed to meet the parking requirements.

Existing parking demand at Santa Barbara Cottage hospital was surveyed in July 2003. Based on information on patient and employee loads on the various survey dates, empirical parking demand was calculated for the site. A parking demand model was developed that incorporated all relevant available empirical data regarding existing activity levels at Santa Barbara Cottage Hospital by operational components. The model-generated parking demand was validated against the parking demand for the site based on actual counts. The model was then used to estimate future parking demand to determine the projected parking requirements. The proposed supply of 1,289 off-street parking spaces is sufficient to accommodate the projected future parking requirements of 1,229 spaces, which would result in more available on-street parking spaces for non-hospital related users.

It is recommended that the hospital continue to promote and implement alternative transportation incentives to its employees to reduce the projected parking demands.

The existing hospital generates approximately 471 morning peak hour trips and 450 evening peak hour trips. With implementation of the proposed project, the hospital is projected to generate

approximately 466 morning peak hour trips and 439 evening peak hour trips. Thus, during the morning and evening peak hours, the existing hospital actually generates more trips than would the proposed project, leading to the conclusion that it would not result in any peak hour traffic impacts on the city's street system.



## **APPENDIX A**

### **PARKING USER SURVEY INFORMATION**

Customer User Survey				
Mode Distribution By Users				
7/9/2003				
Mode	Visitor	Inpatient	Outpatient	Other
Auto (parked)	100%	83%	88%	70%
Auto (dropped off)	0%	17%	6%	4%
Bus	0%	0%	0%	0%
Bicycle	0%	0%	0%	0%
Walking	0%	0%	6%	17%
Other	0%	0%	0%	9%

Customer User Survey				
Mode Distribution By Users				
7/10/2003				
Mode	Visitor	Inpatient	Outpatient	Other
Auto (parked)	91%	90%	89%	83%
Auto (dropped off)	9%	10%	7%	8%
Bus	0%	0%	0%	8%
Bicycle	0%	0%	0%	0%
Walking	0%	0%	4%	0%
Other	0%	0%	0%	0%

Customer User Survey				
Time of Arrival By Users				
7/9/2003				
Time	Visitor	Inpatient	Outpatient	Other
6am-7am	0%	0%	9%	0%
7am-8am	8%	10%	13%	5%
8am-9am	15%	13%	22%	14%
9am-10am	4%	8%	16%	9%
10am-11am	12%	15%	16%	23%
11am-12pm	19%	8%	3%	18%
12pm-1pm	12%	8%	9%	5%
1pm-2pm	4%	0%	0%	9%
2pm-3pm	12%	10%	3%	9%
3pm-4pm	4%	8%	0%	5%
4pm-5pm	0%	0%	6%	0%
5pm-6pm	0%	0%	0%	0%
6pm-7pm	0%	0%	0%	0%
7pm-8pm	0%	0%	0%	0%
Did not answer	12%	19%	3%	5%
Average Duration (Hours)				
Date	Visitor	Inpatient	Outpatient	Other
7/9/2003	3.8	24.2	1.2	8.2

Customer User Survey				
Time of Arrival By Users				
7/10/2003				
Time	Visitor	Inpatient	Outpatient	Other
6am-7am	27%	30%	22%	8%
7am-8am	18%	0%	11%	0%
8am-9am	0%	10%	19%	8%
9am-10am	18%	0%	19%	17%
10am-11am	9%	10%	4%	8%
11am-12pm	0%	0%	4%	8%
12pm-1pm	18%	30%	7%	25%
1pm-2pm	0%	10%	15%	17%
2pm-3pm	0%	0%	0%	0%
3pm-4pm	0%	0%	0%	0%
4pm-5pm	0%	0%	0%	0%
5pm-6pm	0%	0%	0%	0%
6pm-7pm	0%	0%	0%	0%
7pm-8pm	0%	0%	0%	0%
Did not answer	9%	10%	0%	8%
Average Duration (Hours)				
Date	Visitor	Inpatient	Outpatient	Other
7/10/2003	3.1	15.4	1.4	1.0

Customer User Survey				
Parking Location By Users				
7/9/2003				
Parking Location	Visitor	Inpatients	Outpatients	Other
Lot #1	12%	33%	13%	9%
Lot #2	0%	0%	9%	0%
Lot #3	8%	0%	0%	5%
Lot #5	0%	0%	0%	0%
Emergency	19%	25%	3%	0%
Main Entry	0%	0%	0%	18%
Reeves	0%	8%	0%	0%
Outpatient Surgery	0%	0%	0%	0%
MRI	0%	0%	0%	9%
Street	46%	17%	53%	32%
Other	12%	0%	16%	5%
Did not answer	4%	17%	6%	23%

Customer User Survey				
Parking Location By Users				
7/10/2003				
Parking Location	Visitor	Inpatients	Outpatients	Other
Lot #1	0%	20%	7%	0%
Lot #2	9%	10%	0%	8%
Lot #3	0%	0%	4%	0%
Lot #5	0%	0%	0%	0%
Emergency	0%	10%	0%	0%
Main Entry	9%	20%	11%	17%
Reeves	0%	10%	7%	0%
Outpatient Surgery	0%	0%	0%	0%
MRI	0%	0%	26%	17%
Street	55%	0%	33%	33%
Other	18%	10%	4%	0%
Did not answer	9%	20%	7%	25%

Staff User Survey				
Mode Distribution				
	7/2/2003		7/8/2003	
Method	Total	% Daily Total	Total	% Daily Total
Drive and park	161	89%	103	92%
Ride and Drop off	2	1%	1	1%
Carpool	5	3%	1	1%
Vanpool	0	0%	0	0%
Bus	1	1%	1	1%
Bicycle	1	1%	2	2%
Walking	11	6%	2	2%
Other	0	0%	2	2%

Staff User Survey				
Parking Locations				
	7/2/2003		7/8/2003	
Lot #1	8	4%	2	2%
Lot #2	9	5%	4	4%
Lot #3	12	7%	4	4%
Lot #4	20	11%	21	19%
Lot #5	0	0%	1	1%
Lot #6	3	2%	3	3%
Lot #7	4	2%	2	2%
Parking Structure	90	50%	55	49%
OPS	1	1%	1	1%
MRI	0	0%	2	2%
Infant Day Care	2	1%	1	1%
Child Care Center	1	1%	1	1%
Main Entry	0	0%	0	0%
Street	15	8%	10	9%
Other	16	9%	5	4%

**Staff User Survey**  
**Mode vs Arrival Time**  
**7/2/2003**

Time	Drive and Park	Ride and drop off	carpool	vanpool	bus	bicycle	walking	other
3am-4am	0%	0%	0%	0%	0%	0%	20%	0%
4am-5am	0%	0%	0%	0%	0%	0%	0%	0%
5am-6am	1%	0%	0%	0%	0%	0%	0%	0%
6am-7am	26%	0%	0%	0%	0%	100%	20%	0%
7am-8am	28%	33%	100%	0%	100%	0%	20%	0%
8am-9am	16%	0%	0%	0%	0%	0%	40%	0%
9am-10am	3%	0%	0%	0%	0%	0%	0%	0%
10am-11am	2%	0%	0%	0%	0%	0%	0%	0%
11am-12pm	5%	33%	0%	0%	0%	0%	0%	0%
12pm-1pm	2%	0%	0%	0%	0%	0%	0%	0%
1pm-2pm	1%	0%	0%	0%	0%	0%	0%	0%
2pm-3pm	1%	0%	0%	0%	0%	0%	0%	0%
3pm-4pm	1%	0%	0%	0%	0%	0%	0%	0%
4pm-5pm	1%	0%	0%	0%	0%	0%	0%	0%
5pm-6pm	0%	0%	0%	0%	0%	0%	0%	0%
6pm-7pm	1%	0%	0%	0%	0%	0%	0%	0%
7pm-8pm	0%	0%	0%	0%	0%	0%	0%	0%
8pm-9pm	0%	0%	0%	0%	0%	0%	0%	0%
9pm-10pm	0%	0%	0%	0%	0%	0%	0%	0%
10pm-11pm	1%	0%	0%	0%	0%	0%	0%	0%
11pm-12am	1%	0%	0%	0%	0%	0%	0%	0%
Did not answer	11%	33%	0%	0%	0%	0%	0%	100%

**Average Duration: 9.1 Hours**

**Staff User Survey  
Mode vs Arrival Time  
7/8/2003**

<b>Time</b>	<b>Drive and Park</b>	<b>Ride and drop off</b>	<b>carpool</b>	<b>vanpool</b>	<b>bus</b>	<b>bicycle</b>	<b>walking</b>	<b>other</b>
3am-4am	0%	0%	0%	0%	0%	0%	0%	0%
4am-5am	1%	0%	0%	0%	0%	0%	0%	0%
5am-6am	1%	0%	0%	0%	0%	0%	0%	0%
6am-7am	19%	100%	100%	100%	0%	0%	0%	0%
7am-8am	27%	0%	0%	0%	0%	50%	0%	0%
8am-9am	26%	0%	0%	0%	0%	0%	0%	0%
9am-10am	2%	0%	0%	0%	0%	0%	0%	0%
10am-11am	0%	0%	0%	0%	0%	0%	0%	0%
11am-12pm	2%	0%	0%	0%	0%	0%	0%	0%
12pm-1pm	3%	0%	0%	0%	0%	0%	0%	0%
1pm-2pm	1%	0%	0%	0%	0%	0%	0%	0%
2pm-3pm	3%	0%	0%	0%	0%	0%	0%	0%
3pm-4pm	2%	0%	0%	0%	0%	0%	0%	0%
4pm-5pm	0%	0%	0%	0%	0%	0%	0%	0%
5pm-6pm	0%	0%	0%	0%	0%	0%	0%	0%
6pm-7pm	3%	0%	0%	0%	0%	0%	0%	0%
7pm-8pm	0%	0%	0%	0%	0%	0%	0%	0%
8pm-9pm	0%	0%	0%	0%	0%	0%	0%	0%
9pm-10pm	0%	0%	0%	0%	0%	0%	0%	0%
10pm-11pm	0%	0%	0%	0%	0%	0%	0%	0%
11pm-12am	2%	0%	0%	0%	0%	0%	0%	0%
Did not answer	8%	0%	0%	0%	0%	50%	100%	0%

**Average Duration: 9.2 Hours**

**Staff User Survey**  
**Mode vs Departure Time**  
**7/2/2003**

Time	Drive and Park	Ride and drop off	carpool	vanpool	bus	bicycle	walking	other
3am-4am	0%	0%	0%	0%	0%	0%	0%	0%
4am-5am	0%	0%	0%	0%	0%	0%	0%	0%
5am-6am	0%	0%	0%	0%	0%	0%	0%	0%
6am-7am	0%	0%	0%	0%	0%	0%	0%	0%
7am-8am	2%	0%	0%	0%	0%	0%	0%	0%
8am-9am	0%	0%	0%	0%	0%	0%	0%	0%
9am-10am	0%	0%	0%	0%	0%	0%	0%	0%
10am-11am	1%	0%	0%	0%	0%	0%	0%	0%
11am-12pm	1%	0%	0%	0%	0%	0%	0%	0%
12pm-1pm	2%	0%	0%	0%	0%	0%	6%	0%
1pm-2pm	1%	0%	0%	0%	0%	0%	13%	0%
2pm-3pm	1%	0%	0%	0%	0%	0%	0%	0%
3pm-4pm	23%	50%	60%	0%	0%	100%	19%	0%
4pm-5pm	13%	0%	40%	0%	0%	0%	0%	0%
5pm-6pm	23%	0%	0%	0%	100%	0%	31%	0%
6pm-7pm	8%	0%	0%	0%	0%	0%	0%	0%
7pm-8pm	6%	0%	0%	0%	0%	0%	6%	0%
8pm-9pm	4%	0%	0%	0%	0%	0%	0%	0%
9pm-10pm	2%	0%	0%	0%	0%	0%	0%	0%
10pm-11pm	1%	0%	0%	0%	0%	0%	0%	0%
11pm-12am	2%	0%	0%	0%	0%	0%	0%	0%
Did not answer	11%	50%	0%	0%	0%	0%	25%	0%



**Staff User Survey**  
**Mode vs Departure Time**  
**7/8/2003**

<b>Time</b>	<b>Drive and Park</b>	<b>Ride and drop off</b>	<b>carpool</b>	<b>vanpool</b>	<b>bus</b>	<b>bicycle</b>	<b>walking</b>	<b>other</b>
12am-1am	2%	0%	0%	0%	0%	0%	0%	0%
1am-2am	0%	0%	0%	0%	0%	0%	0%	0%
2am-3am	0%	0%	0%	0%	0%	0%	0%	0%
3am-4am	0%	0%	0%	0%	0%	0%	0%	0%
4am-5am	0%	0%	0%	0%	0%	0%	0%	0%
5am-6am	0%	0%	0%	0%	0%	0%	0%	0%
6am-7am	0%	0%	0%	0%	0%	0%	0%	0%
7am-8am	4%	0%	0%	0%	0%	0%	0%	0%
8am-9am	1%	0%	0%	0%	0%	0%	0%	0%
9am-10am	0%	0%	0%	0%	0%	0%	0%	0%
10am-11am	0%	0%	0%	0%	0%	0%	0%	0%
11am-12pm	0%	0%	0%	0%	0%	0%	0%	0%
12pm-1pm	2%	0%	0%	0%	0%	0%	0%	0%
1pm-2pm	2%	0%	0%	0%	0%	0%	0%	0%
2pm-3pm	1%	0%	0%	0%	0%	0%	0%	0%
3pm-4pm	14%	100%	100%	0%	0%	0%	0%	0%
4pm-5pm	22%	0%	0%	0%	0%	50%	0%	0%
5pm-6pm	23%	0%	0%	0%	100%	0%	0%	0%
6pm-7pm	7%	0%	0%	0%	0%	0%	0%	0%
7pm-8pm	7%	0%	0%	0%	0%	0%	0%	0%
8pm-9pm	0%	0%	0%	0%	0%	0%	0%	0%
9pm-10pm	3%	0%	0%	0%	0%	0%	0%	0%
10pm-11pm	0%	0%	0%	0%	0%	0%	0%	0%
11pm-12am	5%	0%	0%	0%	0%	0%	0%	0%
Did not answer	8%	0%	0%	0%	0%	50%	100%	0%

**Staff User Survey**  
**Distribution of Zip Codes of Residence**  
**Santa Barbara Cottage Hospital Staff**

ZIP CODE	July 2, 2003		July 8, 2003	
	STAFF	PERCENTAGE	STAFF	PERCENTAGE
92109	0	0%	0	0%
93001	3	2%	4	4%
93003	1	1%	1	1%
93004	3	2%	3	3%
93010	1	1%	0	0%
93013	16	9%	8	7%
93022	1	1%	0	0%
93023	0	0%	1	1%
93030	2	1%	1	1%
93033	1	1%	0	0%
93035	1	1%	0	0%
93036	0	0%	0	0%
93041	1	1%	0	0%
93045	0	0%	1	1%
93060	0	0%	0	0%
93067	0	0%	1	1%
93101	20	11%	7	6%
93103	15	8%	5	4%
93105	27	15%	19	17%
93108	2	1%	3	3%
93109	7	4%	10	9%
93110	16	9%	10	9%
93111	15	8%	7	6%
93116	0	0%	0	0%
93117	29	16%	12	11%
93118	0	0%	0	0%
93120	1	1%	0	0%
93427	1	1%	3	3%
93436	7	4%	10	9%
93437	1	1%	0	0%
93444	0	0%	1	1%
93454	2	1%	0	0%
93455	2	1%	2	2%
93458	1	1%	0	0%
93460	1	1%	1	1%
93463	2	1%	2	2%
93630	0	0%	0	0%
94346	1	1%	0	0%

100%

Source: Kaku Associates Staff User Survey Data.

**TRAFFIC GENERATION MODEL FOR COTTAGE HOSPITAL  
HOSPITAL PEAK HOURS**

COMPONENT/USER	Daily	Daily Rate *	DAILY TRIPS	AM PEAK HOUR TRIPS (6:30 a.m. - 7:30 a.m.)			PM PEAK HOUR TRIPS (3:00 p.m. - 4:00 p.m.)		
				IN	OUT	TOTAL	IN	OUT	TOTAL
<i>Existing Condition (Year 2003)</i>									
Employees (FTE)	1,666	2.2	3,652	403	35	438	79	213	292
Doctors	100	3.0	300	17	4	21	9	27	36
Volunteers	35	1.9	67	0	0	0	5	12	17
Outpatient Visits (not including ER)	151	1.8	269	32	0	32	3	10	13
ER Visits	71	1.5	108	2	2	4	2	2	4
Inpatient Visits (average beds occupied)	226	0.9	197	16	4	20	5	9	14
Visitors	339	1.4	483	22	2	24	8	2	10
Cancer Center Employees	70	2.2	153	44	2	46	2	44	46
Cancer Center Volunteers	4	1.9	7	0	0	0	0	2	2
Estimated Total Existing Trips			5,235	536	50	586	113	321	434

Notes:

\* Empirical trip generation rates estimated from User Parking Surveys, observations, and various hospital department operational characteristics. See Appendix A for rate calculations.

# EMPIRICAL TRIP RATES

## EMPLOYEES

	Mode Distribution [a]	Employee Vehicles [b]	Vehicle Trip Rate [c]	Daily Trips
Daily FTE: 1666				
Bus	1%			
Bicycle	5%			
Self Drive/Park	90%	1424	2	2849
Ride/Drop Off	1%	15	4	60
Carpool	2%	12	2	25
Mid-day activities [d]		359	2	718
Total Trips				3652
Average Trip Rate/FTE				2.19

## Notes:

[a] Total percentage may not add up to 100% due to rounding. Source of mode distribution from Kaku Associates Staff User Surveys July 2003.

[b] Daily employees driving based on reduced FTEs of 1499 (5% reduction due to illness, vacation, other reasons).

[c] Ride/drop off employees will generate 4 trips for drop off and pick up. Estimate of 2.4 employees per carpool based on Staff User Surveys.

[d] Estimated 20% of self drive and carpool employees makes mid-day trips.

DOCTORS	Daily	% Driving	Daily Driving	Trip Rate	Daily Trips
	100	100%	100	3	300
Total Trips					300
Average Trip Rate					3.0

VOLUNTEERS	Daily	% Driving	Daily Driving	Trip Rate	Daily Trips
	35	95%	33	2	67
Total Trips					67
Average Trip Rate					1.9

OUTPATIENTS (No ER)	Daily Outpatient Arrival	Outpatient Vehicles	% Driving	Daily Driving	Trip Rate	Daily Trips
	151	151	89%	134	2	269
Total Trips						269
Average Trip Rate/FTE						1.8

OUTPATIENTS (ER Only)	Daily ER arrival	ER Vehicles [e]	% Driving	Daily Driving	Trip Rate	Daily Trips
	71	20	89%	18	1	18
		51	89%	45	2	91
Total Trips						108
Average Trip Rate						1.5

[e] SBCH patient data shows 28% of ER patients become inpatients (20), with the other 72% leaving the same day after treatment (51).

## INPATIENTS

	Daily Inpatient Arrival	% Driving	Inpatient Vehicles	Trip Rate	Daily Trips
Beds Occupied/day:					
Daily Inpatient [f]	113	87%	98	2	197
Total Trips					197
Average Trip Rate					0.9

[f] Average inpatient stay of 4 days. Estimate 50% daily inpatients will show up in any one day.

## VISITORS

	Daily Visitor Arrival	Visitor Vehicles	% Driving	Daily Driving	Trip Rate	Daily Trips
Visitors/day:						
Visitors driving	170	170	95%	161	2	322
Visitors carpooling [g]	170	85	95%	81	2	161
Total Trips						483
Average Trip Rate						1.4

[g] Estimate 50% of visitors will carpool together.

Trip Generation Factors (Street Peak)						
	% of Total Daily Trips	AM Peak Hr Factor		% of Total Daily Trips	PM Peak Hr Factor	
		In	Out		In	Out
Operational Components						
Employees (FTE)	0.07	0.65	0.35	0.075	0.05	0.95
Doctors	0.10	0.90	0.10	0.05	0.20	0.80
Volunteers	0.25	1.00	0.00	0.20	0.25	0.75
Outpatient Visits (not including ER)	0.12	1.00	0.00	0.04	0.10	0.90
ER Visits	0.04	0.60	0.40	0.04	0.50	0.50
Inpatient Visits (average beds occupied)	0.15	0.75	0.25	0.10	0.25	0.75
Visitors	0.05	0.70	0.30	0.07	0.55	0.45
Cancer Center Employees	0.50	0.95	0.05	0.50	0.05	0.95
Cancer Center Volunteers	0.25	1.00	0.00	0.25	0.00	1.00

Trip Generation Factors (Hospital Peak)						
	% of Total Daily Trips	AM Peak Hr Factor		% of Total Daily Trips	PM Peak Hr Factor	
		In	Out		In	Out
Operational Components						
Employees (FTE)	0.12	0.92	0.08	0.080	0.27	0.73
Doctors	0.07	0.80	0.20	0.120	0.25	0.75
Volunteers	0.00	1.00	0.00	0.250	0.30	0.70
Outpatient Visits (not including ER)	0.12	1.00	0.00	0.050	0.25	0.75
ER Visits	0.04	0.50	0.50	0.040	0.50	0.50
Inpatient Visits (average beds occupied)	0.10	0.80	0.20	0.070	0.33	0.67
Visitors	0.05	0.90	0.10	0.020	0.80	0.20
Cancer Center Employees	0.30	0.95	0.05	0.300	0.05	0.95
Cancer Center Volunteers	0.00	1.00	0.00	0.250	0.00	1.00

## **APPENDIX B**

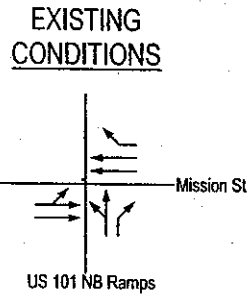
### **INTERSECTION LANE CONFIGURATIONS**



NOT TO SCALE

## INTERSECTION LANE CONFIGURATIONS

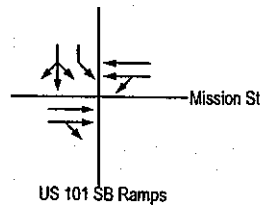
1. US 101 NB Ramps & Mission St



FUTURE CONDITIONS

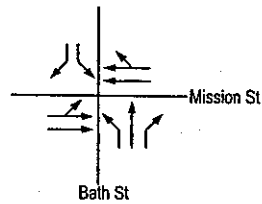
Same As Existing

2. US 101 SB Ramps & Mission St



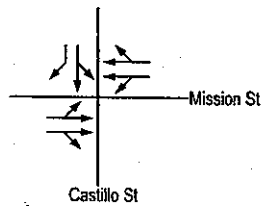
Same As Existing

3. Bath St & Mission St



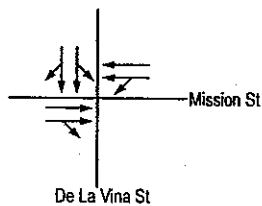
Same As Existing

4. Castillo St & Mission St



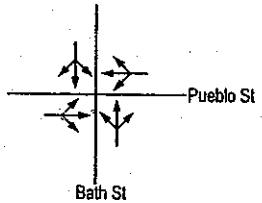
Same As Existing

5. De La Vina St & Mission St



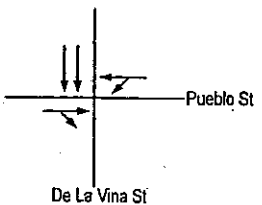
Same As Existing

6. Bath St & Pueblo St



Same As Existing

7. De La Vina St & Pueblo St

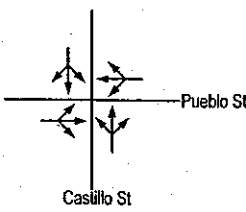
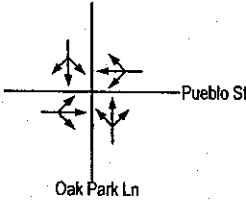
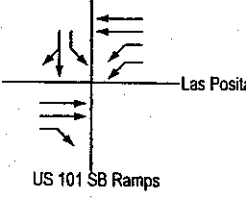
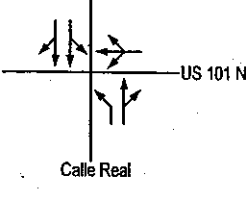
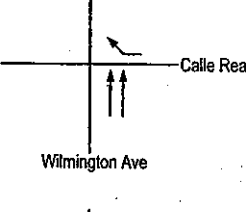
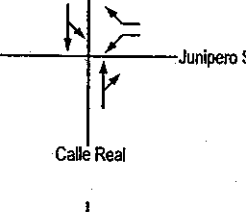
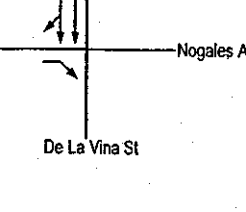


Same As Existing



NOT TO SCALE

## INTERSECTION LANE CONFIGURATIONS

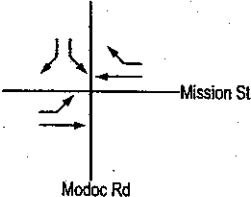
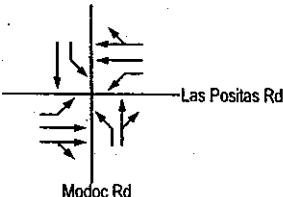
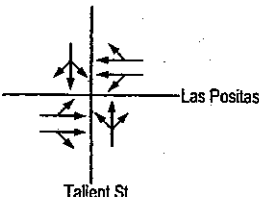
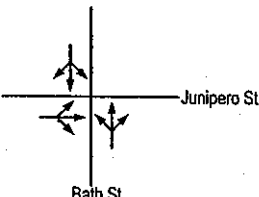
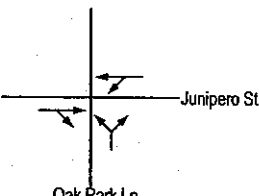
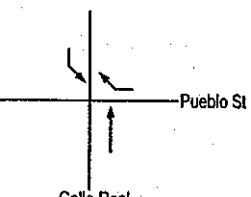
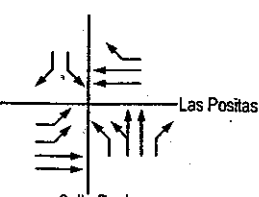
	EXISTING CONDITIONS	FUTURE CONDITIONS
8. Castillo St & Pueblo St		Same As Existing
9. Oak Park Ln & Pueblo St		Same As Existing
10. US 101 SB Ramps & Las Positas		Same As Existing
11. Calle Real & US 101 NB Ramp/ Showgrounds		Same As Existing
11a. Calle Real & Wilmington Ave		Same As Existing
12. Calle Real & Junipero St		Same As Existing
13. De La Vina St & Nogales Av		Same As Existing





NOT TO SCALE

## INTERSECTION LANE CONFIGURATIONS

	EXISTING CONDITIONS	FUTURE CONDITIONS
14. Modoc Rd & Mission St		Same As Existing
15. Modoc Rd & Las Positas Rd		Same As Existing
16. Tallent St & Las Positas		Same As Existing
17. Bath St & Junipero St		Same As Existing
18. Oak Park Ln & Junipero St		Same As Existing
19. Calle Real & Pueblo St		Same As Existing
20. Calle Real & Las Positas		Same As Existing

## **APPENDIX C**

### **TRAFFIC COUNT SHEETS**

CLIENT: KAKU ASSOCIATES, INC  
PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
DATE: TUESDAY, JULY 29TH, 2003  
PERIODS: 7:00 AM TO 9:00 AM AND 4:  
INTERSECTION: N/S JUNIPERO STREET  
E/W BATH STREET

Diagram illustrating the intersection of Bath Street and Junipero Street during the AM Peak Hour (730-830).

**Street Layout and Traffic Flow:**

- Bath Street (Vertical):** Traffic flows from top to bottom.
- Junipero Street (Horizontal):** Traffic flows from left to right.

**Vehicle Counts (AM Peak Hour 730-830):**

Direction	Left Lane	Middle Lane	Right Lane
Bath Street (Top to Bottom)	0	0	17
Junipero Street (Left to Right)	54	0	59

PM PEAK HOUR  
4:15-5:15

BATH STREET

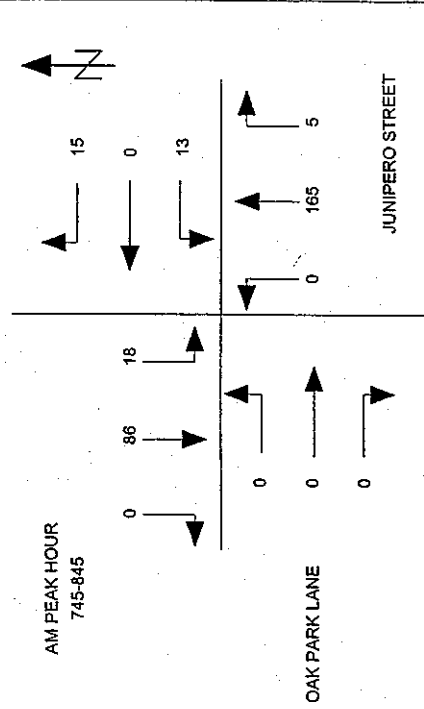
JUNIPERO STREET

0 0 0 0 44 0 110

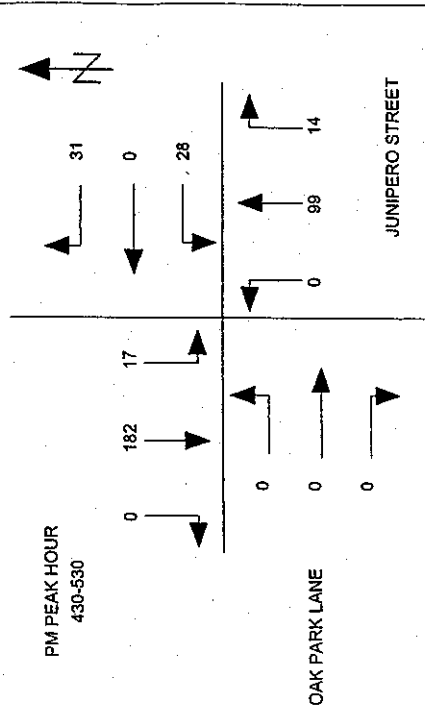
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: TUESDAY, JULY 29TH, 2003  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S JUNIPERO STREET  
 E/W OAK PARK LANE

15 MIN COUNTS											
7:00 AM TO 9:00 AM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH
	12	11	10	9	8	7	6	5	4	3	2
	EBLT	EBTH	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT
TOTAL											
7:00-7:15	0	9	1	3	0	2	0	9	0	0	24
7:15-7:30	0	12	1	4	0	3	1	12	0	0	33
7:30-7:45	0	16	1	5	0	3	0	26	0	0	51
7:45-8:00	0	29	2	4	0	5	1	54	0	0	95
8:00-8:15	0	13	6	3	0	2	2	39	0	0	65
8:15-8:30	0	25	6	5	0	4	1	40	0	0	81
8:30-8:45	0	19	4	3	0	2	1	32	0	0	61
8:45-9:00	0	16	2	6	0	4	2	38	0	0	88
HOUR TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH
	12	11	10	9	8	7	6	5	4	3	2
	EBLT	EBTH	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT
TOTAL											
7:00-8:00	0	66	5	16	0	13	2	101	0	0	203
7:15-8:15	0	70	10	16	0	13	4	131	0	0	244
7:30-8:30	0	83	15	17	0	14	4	159	0	0	292
7:45-8:45	0	86	18	15	0	13	5	165	0	0	302
8:00-9:00	0	73	18	17	0	12	6	149	0	0	275



15 MIN COUNTS											
4:00 PM TO 6:00 PM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH
	12	11	10	9	8	7	6	5	4	3	2
	EBLT	EBTH	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT
TOTAL											
4:00-4:15	0	40	2	5	0	6	3	20	0	0	76
4:15-4:30	0	31	3	7	0	2	7	31	0	0	81
4:30-4:45	0	44	5	8	0	7	1	27	0	0	92
4:45-5:00	0	37	3	6	0	5	2	20	0	0	73
5:00-5:15	0	58	7	12	0	9	5	27	0	0	118
5:15-5:30	0	43	2	5	0	7	6	25	0	0	98
5:30-5:45	0	32	4	1	0	7	2	24	0	0	70
5:45-6:00	0	22	3	3	0	5	2	25	0	0	60
HOUR TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH
	12	11	10	9	8	7	6	5	4	3	2
	EBLT	EBTH	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT	EBLT
TOTAL											
4:00-5:00	0	152	13	26	0	20	13	98	0	0	322
4:15-5:15	0	170	18	33	0	23	15	105	0	0	364
4:30-5:30	0	182	17	31	0	28	14	99	0	0	371
4:45-5:45	0	170	16	24	0	28	15	96	0	0	349
5:00-6:00	0	155	16	21	0	28	15	101	0	0	336

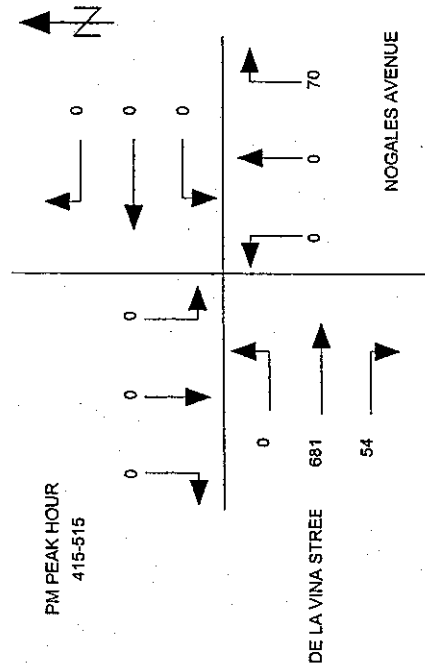
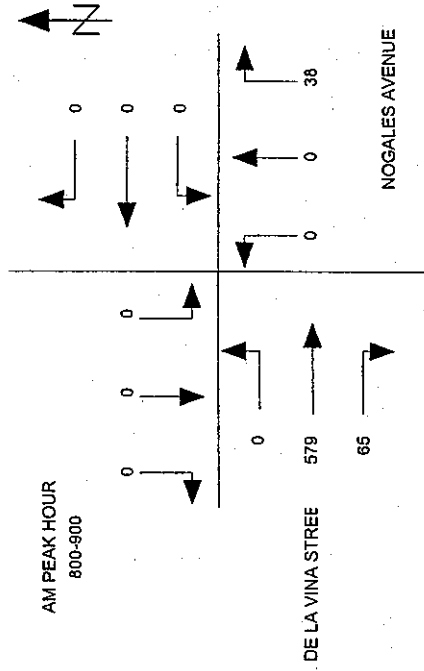


## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: TUESDAY, JULY 29TH, 2003  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S NOGALES AVENUE  
 EW DE LA VINA STREET

15 MIN COUNTS											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH
700-715	0	0	0	0	0	0	5	0	0	4	70
715-730	0	0	0	0	0	0	5	0	0	8	78
730-745	0	0	0	0	0	0	9	0	0	12	118
745-800	0	0	0	0	0	0	5	0	0	17	140
800-815	0	0	0	0	0	0	11	0	0	11	134
815-830	0	0	0	0	0	0	10	0	0	17	152
830-845	0	0	0	0	0	0	10	0	0	18	151
845-900	0	0	0	0	0	0	7	0	0	19	142
TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH
700-900	0	0	0	0	0	0	24	0	0	41	406
715-815	0	0	0	0	0	0	30	0	0	48	470
730-830	0	0	0	0	0	0	35	0	0	57	544
745-845	0	0	0	0	0	0	36	0	0	63	577
800-900	0	0	0	0	0	0	38	0	0	65	579
TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH
700-900	0	0	0	0	0	0	24	0	0	41	406
715-815	0	0	0	0	0	0	30	0	0	48	470
730-830	0	0	0	0	0	0	35	0	0	57	544
745-845	0	0	0	0	0	0	36	0	0	63	577
800-900	0	0	0	0	0	0	38	0	0	65	579
TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH
700-900	0	0	0	0	0	0	24	0	0	41	406
715-815	0	0	0	0	0	0	30	0	0	48	470
730-830	0	0	0	0	0	0	35	0	0	57	544
745-845	0	0	0	0	0	0	36	0	0	63	577
800-900	0	0	0	0	0	0	38	0	0	65	579
TOTALS											

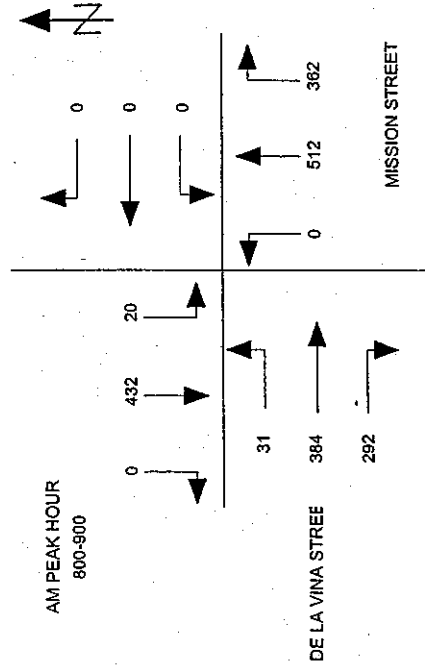
15 MIN COUNTS											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH
400-415	0	0	0	0	0	0	22	0	0	16	169
415-430	0	0	0	0	0	0	21	0	0	7	168
430-445	0	0	0	0	0	0	14	0	0	15	168
445-500	0	0	0	0	0	0	17	0	0	15	170
500-515	0	0	0	0	0	0	18	0	0	17	175
515-530	0	0	0	0	0	0	10	0	0	9	170
530-545	0	0	0	0	0	0	12	0	0	3	158
545-600	0	0	0	0	0	0	13	0	0	5	126
TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH
400-500	0	0	0	0	0	0	74	0	0	53	675
415-515	0	0	0	0	0	0	70	0	0	54	681
430-530	0	0	0	0	0	0	59	0	0	56	683
445-545	0	0	0	0	0	0	57	0	0	44	673
500-600	0	0	0	0	0	0	53	0	0	34	629
TOTALS											



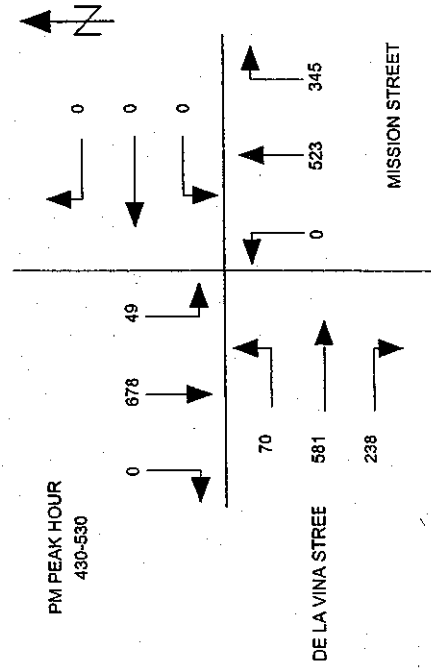
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: TUESDAY, JULY 29TH, 2003  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S MISSION STREET  
 E/W DE LA VINA STREET

15 MIN COUNTS											
7:00 AM TO 9:00 AM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH
7:00-7:15	0	44	3	0	0	0	25	51	0	31	40
7:15-7:30	0	54	1	0	0	0	40	71	0	43	53
7:30-7:45	0	88	2	0	0	0	46	88	0	54	78
7:45-8:00	0	91	10	0	0	0	76	109	0	75	91
8:00-8:15	0	104	7	0	0	0	76	119	0	70	90
8:15-8:30	0	105	6	0	0	0	94	124	0	92	100
8:30-8:45	0	111	3	0	0	0	97	128	0	68	94
8:45-9:00	0	112	4	0	0	0	95	141	0	62	100
HOUR TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH
7:00-8:00	0	278	16	0	0	0	187	319	0	203	262
7:15-8:15	0	338	20	0	0	0	238	387	0	242	312
7:30-8:30	0	389	25	0	0	0	292	440	0	291	359
7:45-8:45	0	411	26	0	0	0	343	480	0	305	375
8:00-9:00	0	432	20	0	0	0	362	512	0	292	384



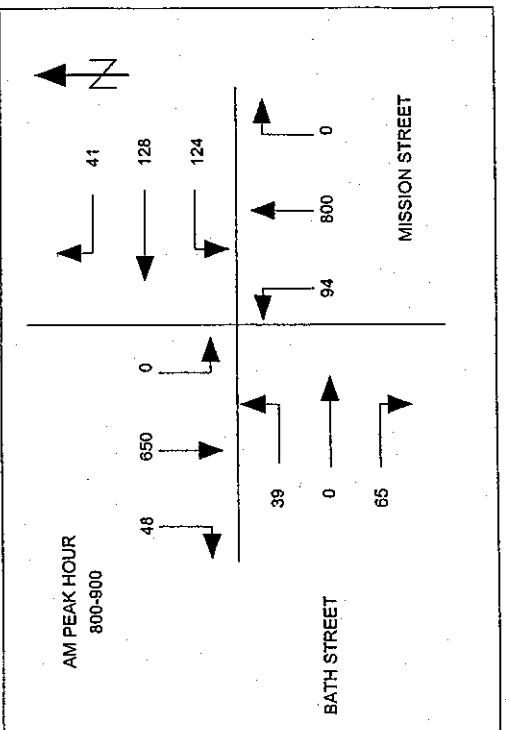
15 MIN COUNTS											
4:00 PM TO 6:00 PM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH
4:00-4:15	0	142	7	0	0	0	77	118	0	60	127
4:15-4:30	0	153	13	0	0	0	89	129	0	61	127
4:30-4:45	0	131	10	0	0	0	86	123	0	54	121
4:45-5:00	0	166	13	0	0	0	72	137	0	73	148
5:00-5:15	0	184	13	0	0	0	96	129	0	63	164
5:15-5:30	0	197	13	0	0	0	111	134	0	48	148
5:30-5:45	0	137	6	0	0	0	70	121	0	47	106
5:45-6:00	0	126	8	0	0	0	75	145	0	55	122
HOUR TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH
4:00-5:00	0	592	43	0	0	0	284	507	0	248	523
4:15-5:15	0	634	49	0	0	0	303	518	0	251	560
4:30-5:30	0	678	49	0	0	0	345	523	0	238	581
4:45-5:45	0	684	45	0	0	0	349	521	0	231	566
5:00-6:00	0	644	40	0	0	0	352	529	0	213	540



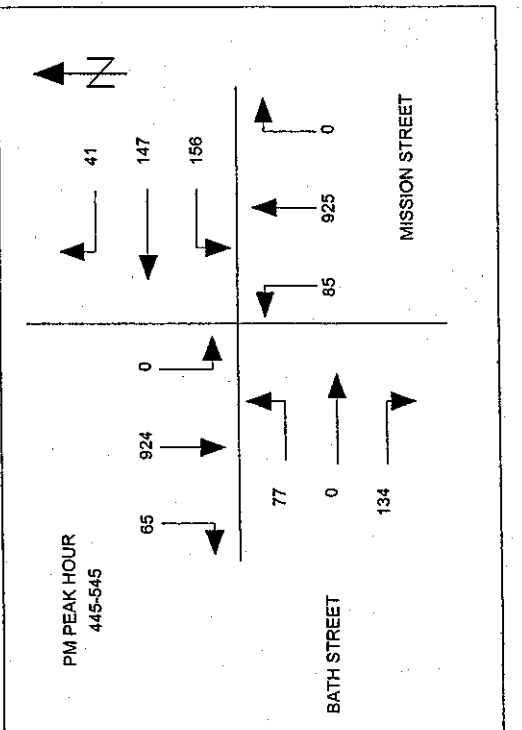
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: TUESDAY, JULY 29TH, 2003  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S MISSION STREET  
 E/W BATH STREET

15 MIN COUNTS											
7:00 AM TO 9:00 AM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
SBRT	SBTH	SBTH	SBTH	WBRT	WBTH	WBTH	NBRT	NBTH	NBLT	EBRT	EBTH
1	2	3	4	5	6	7	8	9	10	11	12
7:00-7:15	5	55	0	2	14	20	0	75	14	9	7
7:15-7:30	6	104	0	9	24	30	0	133	22	14	7
7:30-7:45	7	140	0	9	23	34	0	142	18	10	8
7:45-8:00	6	168	0	4	28	33	0	205	25	11	9
8:00-8:15	8	143	0	3	28	27	0	175	16	17	4
8:15-8:30	15	175	0	13	38	35	0	229	27	10	10
8:30-8:45	14	150	0	12	31	34	0	185	24	21	11
8:45-9:00	11	182	0	13	31	28	0	211	27	17	14
TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
7:00-8:00	24	467	0	24	89	117	0	555	79	44	31
7:15-8:15	27	555	0	25	103	124	0	655	81	52	28
7:30-8:30	36	626	0	29	117	129	0	751	86	48	31
7:45-8:45	43	636	0	32	125	129	0	794	92	59	34
8:00-9:00	48	650	0	41	128	124	0	800	94	65	39



15 MIN COUNTS													
4:00 PM TO 6:00 PM													
PERIOD	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
400-415	12	160	0	10	22	26	0	159	15	27	0	13	444
415-430	20	225	0	10	43	35	0	213	29	33	0	22	630
430-445	14	202	0	8	34	40	0	173	10	45	0	29	555
445-500	28	206	0	8	41	35	0	224	17	44	0	26	629
500-515	11	230	0	8	33	44	0	223	22	36	0	16	623
515-530	16	259	0	16	35	45	0	268	26	24	0	16	693
530-545	10	229	0	9	38	32	0	222	20	30	0	19	609
545-600	7	185	0	11	36	33	0	233	14	16	0	13	548
HOURL TOTALS													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
400-500	74	793	0	36	140	136	0	769	71	149	0	90	2268
415-515	73	863	0	34	151	154	0	833	78	158	0	93	2437
430-530	69	897	0	40	143	164	0	876	75	149	0	87	2500
445-545	65	924	0	41	147	156	0	925	85	134	0	77	2554
500-600	44	903	0	44	142	154	0	934	82	106	0	84	2473



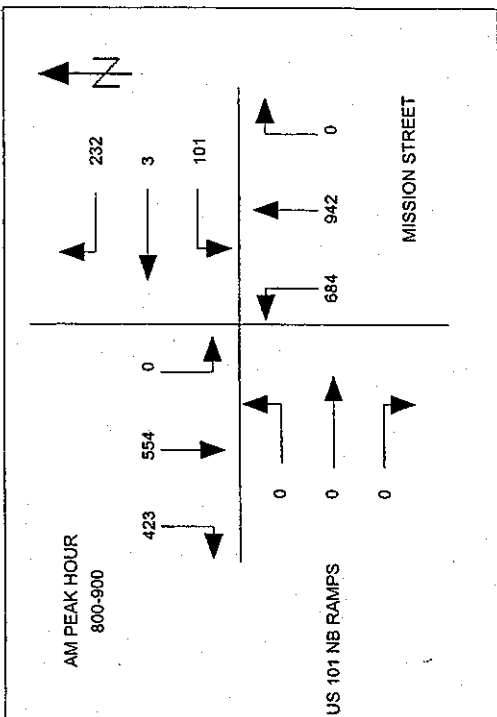




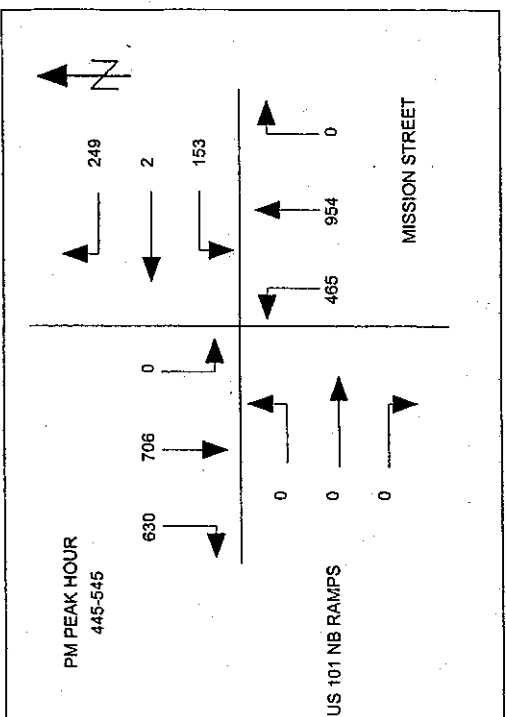
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: TUESDAY, JULY 29TH, 2003  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S MISSION STREET  
 E/W US 101 NB RAMP

7:00 AM TO 9:00 AM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
SBRT	SBTH	SBTH	SBTH	WBTH	WBTH	WBTH	NBTH	NBTH	NBTH	EBTH	EBTH
1	2	3	4	5	6	7	8	9	10	11	12
7:00-7:15	48	73	0	28	1	13	0	98	108	0	0
7:15-7:30	55	95	0	43	1	15	0	132	125	0	0
7:30-7:45	102	119	0	37	0	14	0	153	159	0	0
7:45-8:00	148	130	0	68	1	21	0	222	202	0	0
8:00-8:15	106	111	0	43	1	34	0	222	172	0	0
8:15-8:30	96	138	0	55	2	27	0	218	151	0	0
8:30-8:45	100	154	0	71	0	28	0	245	172	0	0
8:45-9:00	121	151	0	63	0	12	0	257	189	0	0
<b>HOUR TOTALS</b>											
TIME	1	2	3	4	5	6	7	8	9	10	11
7:00-8:00	351	417	0	176	3	63	0	605	594	0	0
7:15-8:15	409	455	0	191	3	84	0	729	658	0	0
7:30-8:30	450	498	0	203	4	96	0	815	684	0	0
7:45-8:45	448	533	0	237	4	110	0	907	697	0	0
8:00-9:00	423	554	0	232	3	101	0	942	684	0	0
<b>HOUR TOTALS</b>											
TIME	1	2	3	4	5	6	7	8	9	10	11
7:00-8:00	351	417	0	176	3	63	0	605	594	0	0
7:15-8:15	409	455	0	191	3	84	0	729	658	0	0
7:30-8:30	450	498	0	203	4	96	0	815	684	0	0
7:45-8:45	448	533	0	237	4	110	0	907	697	0	0
8:00-9:00	423	554	0	232	3	101	0	942	684	0	0



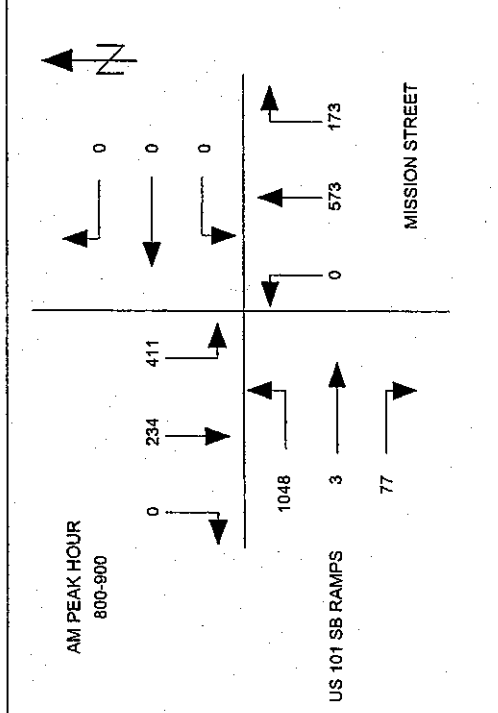
4:00 PM TO 6:00 PM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
SBRT	SBTH	SBTH	SBTH	WBTH	WBTH	WBTH	NBTH	NBTH	NBTH	EBTH	EBTH
1	2	3	4	5	6	7	8	9	10	11	12
4:00-4:15	119	174	0	57	1	48	0	211	105	0	0
4:15-4:30	158	173	0	57	2	50	0	214	113	0	0
4:30-4:45	125	170	0	59	0	41	0	205	90	0	0
4:45-5:00	163	191	0	59	0	51	0	221	94	0	0
5:00-5:15	172	199	0	70	1	31	0	252	125	0	0
5:15-5:30	154	151	0	65	1	43	0	265	131	0	0
5:30-5:45	141	165	0	55	0	28	0	216	115	0	0
5:45-6:00	135	144	0	89	0	48	0	171	122	0	0
<b>HOUR TOTALS</b>											
TIME	1	2	3	4	5	6	7	8	9	10	11
4:00-5:00	565	708	0	232	3	190	0	851	402	0	0
4:15-5:15	618	733	0	245	3	173	0	892	422	0	0
4:30-5:30	614	711	0	253	2	166	0	943	440	0	0
4:45-5:45	630	706	0	249	2	153	0	954	465	0	0
5:00-6:00	602	659	0	279	2	150	0	904	493	0	0



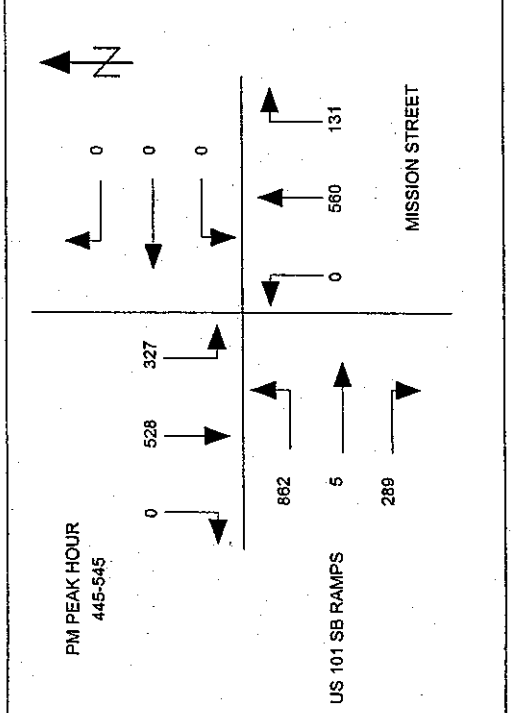
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: TUESDAY, JULY 29TH, 2003  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S MISSION STREET  
 E/W US 101 SB RAMPS

15 MIN COUNTS											
7:00 AM TO 8:00 AM											
PERIOD	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTL
7:00-7:15	0	32	53	0	0	0	41	89	0	2	114
7:15-7:30	0	38	78	0	0	0	50	110	0	13	176
7:30-7:45	0	42	95	0	0	0	70	149	0	26	201
7:45-8:00	0	39	108	0	0	0	73	149	0	20	242
8:00-8:15	0	58	86	0	0	0	44	149	0	20	246
8:15-8:30	0	62	103	0	0	0	48	148	0	23	254
8:30-8:45	0	56	110	0	0	0	39	145	0	15	275
8:45-9:00	0	58	112	0	0	0	42	131	0	19	273
TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
7:00-8:00	0	151	334	0	0	0	234	497	0	61	703
7:15-8:15	0	177	367	0	0	0	237	557	0	79	835
7:30-8:30	0	201	392	0	0	0	235	595	0	89	2254
7:45-8:45	0	215	407	0	0	0	204	591	0	78	2514
8:00-9:00	0	234	411	0	0	0	173	573	0	77	2519



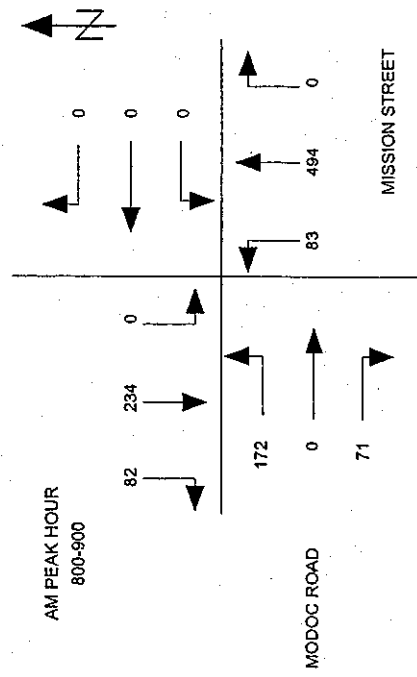
15 MIN COUNTS											
4:00 PM TO 6:00 PM											
PERIOD	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTL
4:00-4:15	0	132	101	0	0	0	25	116	0	45	193
4:15-4:30	0	131	108	0	0	0	21	119	0	54	191
4:30-4:45	0	118	92	0	0	0	24	111	0	68	181
4:45-5:00	0	127	86	0	0	0	40	125	0	50	181
5:00-5:15	0	143	88	0	0	0	33	151	0	71	205
5:15-5:30	0	128	82	0	0	0	26	155	0	106	232
5:30-5:45	0	130	71	0	0	0	32	129	0	62	225
5:45-6:00	0	95	56	0	0	0	27	104	0	50	200
TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
4:00-5:00	0	508	385	0	0	0	110	471	0	217	770
4:15-5:15	0	519	372	0	0	0	118	506	0	243	809
4:30-5:30	0	516	348	0	0	0	123	542	0	285	843
4:45-5:45	0	528	327	0	0	0	131	560	0	289	862
5:00-6:00	0	496	297	0	0	0	118	539	0	289	859



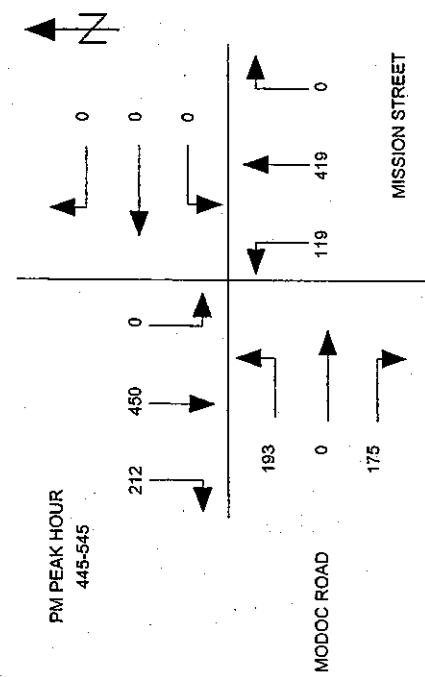
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: TUESDAY, JULY 29TH, 2003  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S MISSION STREET  
 E/W MODOC ROAD

7:00 AM TO 9:00 AM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
SBRT	SBTH	SBTH	SBTH	WBRT	WBTH	WBTH	NBRT	NBTH	NBLT	EBRT	EBTH
7:00-7:15	11	36	0	0	0	0	0	80	13	10	0
7:15-7:30	11	36	0	0	0	0	0	109	19	7	0
7:30-7:45	19	50	0	0	0	0	0	124	24	12	0
7:45-8:00	18	48	0	0	0	0	0	116	29	13	0
8:00-8:15	24	63	0	0	0	0	0	140	17	21	0
8:15-8:30	20	58	0	0	0	0	0	116	25	16	0
8:30-8:45	21	57	0	0	0	0	0	110	19	15	0
8:45-9:00	17	56	0	0	0	0	0	128	22	19	0
HOUR TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
7:00-8:00	59	170	0	0	0	0	0	429	85	42	0
7:15-8:15	72	197	0	0	0	0	0	489	89	53	0
7:30-8:30	81	219	0	0	0	0	0	496	95	62	0
7:45-8:45	83	226	0	0	0	0	0	482	90	65	0
8:00-9:00	82	234	0	0	0	0	0	494	83	71	0
HOUR TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
7:00-8:00	59	170	0	0	0	0	0	429	85	42	0
7:15-8:15	72	197	0	0	0	0	0	489	89	53	0
7:30-8:30	81	219	0	0	0	0	0	496	95	62	0
7:45-8:45	83	226	0	0	0	0	0	482	90	65	0
8:00-9:00	82	234	0	0	0	0	0	494	83	71	0



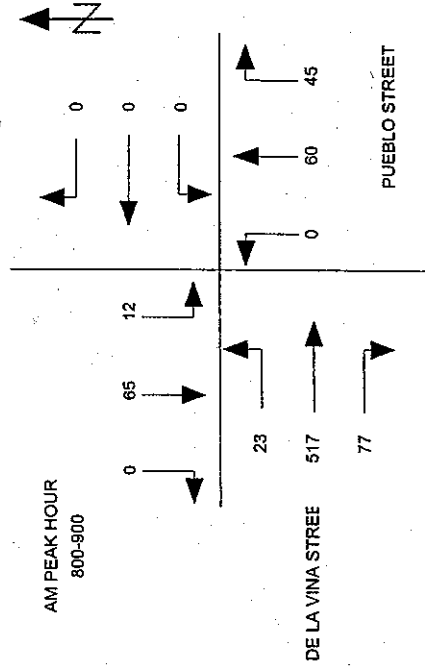
4:00 PM TO 6:00 PM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
SBRT	SBTH	SBTH	SBTH	WBRT	WBTH	WBTH	NBRT	NBTH	NBLT	EBRT	EBTH
4:00-4:15	41	106	0	0	0	0	0	87	36	39	0
4:15-4:30	43	119	0	0	0	0	0	82	33	29	0
4:30-4:45	56	123	0	0	0	0	0	81	21	39	0
4:45-5:00	47	114	0	0	0	0	0	102	25	47	0
5:00-5:15	45	110	0	0	0	0	0	108	38	38	0
5:15-5:30	66	108	0	0	0	0	0	103	32	56	0
5:30-5:45	54	118	0	0	0	0	0	106	24	34	0
5:45-6:00	43	99	0	0	0	0	0	73	41	23	0
HOUR TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
4:00-5:00	187	462	0	0	0	0	0	352	115	154	0
4:15-5:15	191	466	0	0	0	0	0	373	117	153	0
4:30-5:30	214	455	0	0	0	0	0	394	116	180	0
4:45-5:45	212	450	0	0	0	0	0	419	119	175	0
5:00-6:00	208	435	0	0	0	0	0	390	135	151	0



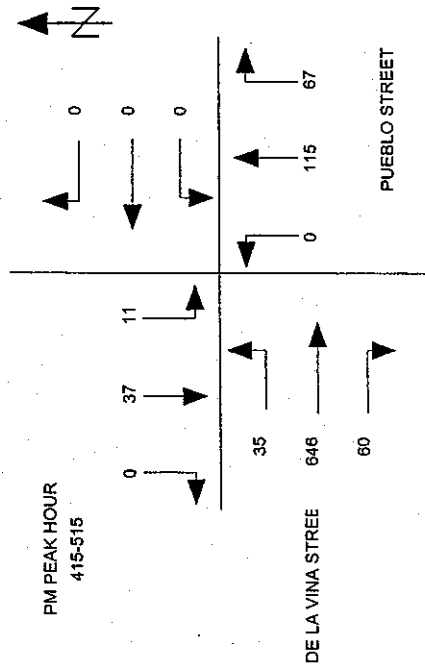
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: TUESDAY, JULY 29TH, 2003  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S PUEBLO STREET  
 E/W DE LA VINA STREET

15 MIN COUNTS											
7:00 AM TO 9:00 AM											
PERIOD	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTL
7:00-7:15	0	12	2	0	0	0	8	7	0	16	2
7:15-7:30	0	7	3	0	0	0	2	6	0	13	5
7:30-7:45	0	13	2	0	0	0	5	16	0	11	4
7:45-8:00	0	22	4	0	0	0	9	7	0	15	8
8:00-8:15	0	17	1	0	0	0	8	11	0	15	9
8:15-8:30	0	18	5	0	0	0	13	7	0	22	2
8:30-8:45	0	12	4	0	0	0	15	18	0	24	10
8:45-9:00	0	18	2	0	0	0	8	24	0	16	2
TOTALS											
TIME	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTL
7:00-9:00	0	54	11	0	0	0	24	36	0	55	17
7:15-8:15	0	59	10	0	0	0	24	40	0	54	24
7:30-8:30	0	70	12	0	0	0	35	41	0	63	21
7:45-8:45	0	69	14	0	0	0	45	43	0	76	27
8:00-9:00	0	65	12	0	0	0	45	60	0	77	23



15 MIN COUNTS											
4:00 PM TO 6:00 PM											
PERIOD	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTL
4:00-4:15	0	13	6	0	0	0	22	23	0	14	10
4:15-4:30	0	5	3	0	0	0	13	26	0	21	10
4:30-4:45	0	8	1	0	0	0	14	29	0	10	10
4:45-5:00	0	14	4	0	0	0	20	26	0	13	6
5:00-5:15	0	10	3	0	0	0	20	34	0	16	9
5:15-5:30	0	9	6	0	0	0	13	21	0	10	5
5:30-5:45	0	11	6	0	0	0	14	18	0	9	12
5:45-6:00	0	9	3	0	0	0	15	17	0	8	5
TOTALS											
TIME	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTL
4:00-6:00	0	40	14	0	0	0	69	104	0	58	35
4:15-5:15	0	37	11	0	0	0	67	115	0	60	35
4:30-5:30	0	41	14	0	0	0	67	110	0	49	30
4:45-5:45	0	44	19	0	0	0	67	99	0	48	32
5:00-6:00	0	39	18	0	0	0	62	90	0	43	31

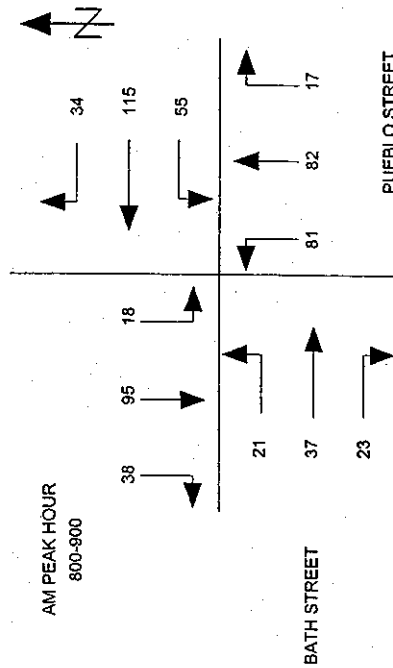


## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

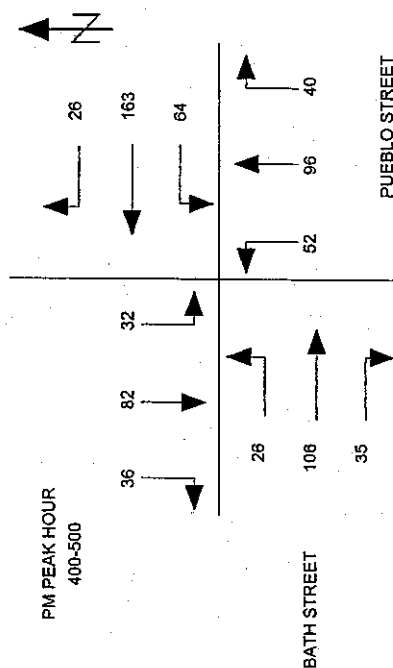
CLIENT: KAKU ASSOCIATES, INC  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: TUESDAY, JULY 29TH, 2003  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S PUEBLO STREET  
 E/W BATH STREET

15 MIN COUNTS														7:00 AM TO 9:00 AM													
PERIOD	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	PERIOD	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
700-715	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL		715-730	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL	
	6	14	4	4	23	11	9	7	9	0	5	0	89		6	14	4	4	23	11	9	7	9	0	5	0	92
745-800	8	18	9	6	24	15	3	17	19	5	6	2	132		8	18	9	6	24	15	3	17	19	5	6	2	132
800-815	9	27	1	4	30	5	5	17	19	0	7	4	128		9	27	1	4	30	5	5	17	19	0	7	4	128
815-830	5	20	4	4	20	7	2	16	26	5	9	4	122		5	20	4	4	20	7	2	16	26	5	9	4	122
830-845	14	28	3	9	36	12	4	14	11	4	7	6	148		14	28	3	9	36	12	4	14	11	4	7	6	148
	9	25	6	8	30	16	5	29	25	4	9	6	172		9	25	6	8	30	16	5	29	25	4	9	6	172
845-900	10	22	5	13	29	20	6	23	19	10	12	5	174		10	22	5	13	29	20	6	23	19	10	12	5	174
HOUR TOTALS																											
TIME	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	TIME	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
700-800	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL		700-800	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL	
	25	80	18	19	99	35	23	48	53	6	26	9	441		25	80	18	19	99	35	23	48	53	6	26	9	441
715-815	28	78	18	18	97	38	19	57	73	10	27	10	474		28	78	18	18	97	38	19	57	73	10	27	10	474
730-830	36	93	17	23	110	39	14	64	75	14	29	16	530		36	93	17	23	110	39	14	64	75	14	29	16	530
745-845	37	100	14	25	116	40	16	76	81	13	32	20	570		37	100	14	25	116	40	16	76	81	13	32	20	570
800-900	38	95	18	34	115	55	17	82	81	23	37	21	616		38	95	18	34	115	55	17	82	81	23	37	21	616

AM PEAK HOUR  
800-900



15 MIN COUNTS														4:00 PM TO 6:00 PM													
PERIOD	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	PERIOD	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
400-415	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL		415-430	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL	
	8	26	4	11	48	17	10	28	14	7	30	5	208		9	20	6	3	33	21	7	17	16	11	22	8	173
	6	14	9	3	44	11	13	26	14	9	32	8	189		6	14	9	3	44	11	13	26	14	9	32	8	189
	13	22	13	9	38	15	10	25	8	8	22	5	188		13	22	13	9	38	15	10	25	8	8	22	5	188
	11	34	6	4	37	5	4	28	7	5	17	15	173		11	34	6	4	37	5	4	28	7	5	17	15	173
	8	16	4	2	35	16	2	18	9	5	14	2	131		8	16	4	2	35	16	2	18	9	5	14	2	131
	9	20	5	5	46	10	5	21	6	3	16	5	151		9	20	5	5	46	10	5	21	6	3	16	5	151
	8	10	2	3	34	5	9	17	12	4	18	5	127		8	10	2	3	34	5	9	17	12	4	18	5	127
HOUR TOTALS																											
TIME	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	TIME	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
400-500	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL		400-500	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL	
	35	82	32	26	163	64	40	96	52	35	108	28	758		35	82	32	26	163	64	40	96	52	35	108	28	758
	39	90	34	19	152	52	34	96	45	33	93	36	723		39	90	34	19	152	52	34	96	45	33	93	36	723
	38	86	32	18	154	47	29	97	38	27	85	30	681		38	86	32	18	154	47	29	97	38	27	85	30	681
	41	92	28	20	156	48	21	92	30	21	69	27	643		41	92	28	20	156	48	21	92	30	21	69	27	643
	36	80	17	14	152	36	20	84	34	17	65	27	582		36	80	17	14	152	36	20	84	34	17	65	27	582



## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC

PROJECT: SANTA BARBARA COTTAGE HOSPITAL

DATE: TUESDAY, JULY 29TH, 2003

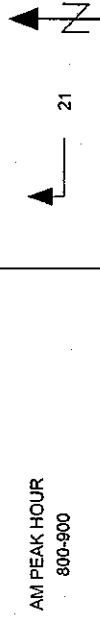
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM

INTERSECTION: N/S PUEBLO STREET

E/W CASTILLO STREET

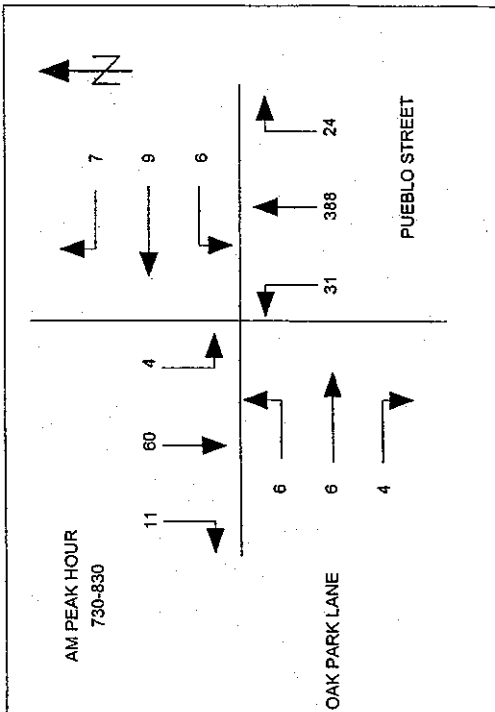
15 MIN COUNTS											
7:00 AM TO 9:00 AM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL
TOTAL											
7:00-7:15	7	14	3	2	3	1	12	21	5	5	14
7:15-7:30	3	11	2	2	5	4	20	21	5	4	11
7:30-7:45	5	11	5	6	6	3	26	41	11	3	17
7:45-8:00	5	20	5	2	9	8	35	56	7	6	21
8:00-8:15	8	17	6	3	12	9	12	61	9	3	13
8:15-8:30	3	23	7	7	15	6	16	32	6	3	15
8:30-8:45	2	16	3	6	12	8	14	62	10	6	10
8:45-9:00	7	29	5	5	13	14	15	65	11	3	11
HOUR TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL
TOTAL											
7:00-8:00	20	56	15	12	23	16	93	139	28	18	63
7:15-8:15	21	59	18	13	32	24	93	179	32	16	62
7:30-8:30	21	71	23	18	42	26	89	190	33	15	66
7:45-8:45	18	76	21	18	48	31	77	211	32	18	59
8:00-9:00	20	85	21	21	52	37	57	220	36	15	49

15 MIN COUNTS											
4:00 PM TO 6:00 PM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL
TOTAL											
4:00-4:15	10	22	7	10	14	9	22	43	12	10	38
4:15-4:30	10	24	8	5	10	11	21	45	14	5	20
4:30-4:45	11	14	10	8	19	6	25	44	10	3	31
4:45-5:00	6	28	5	5	13	17	18	41	12	5	29
5:00-5:15	7	33	6	4	15	23	24	40	12	9	29
5:15-5:30	6	24	2	1	18	9	10	28	9	2	20
5:30-5:45	5	21	3	3	15	7	14	29	11	2	30
5:45-6:00	2	12	2	4	7	2	16	31	8	0	21
HOUR TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL
TOTAL											
4:00-5:00	37	86	30	28	56	43	86	173	48	23	118
4:15-5:15	34	97	29	22	57	57	88	170	43	22	109
4:30-5:30	30	91	23	18	65	55	77	153	43	19	109
4:45-5:45	24	104	16	13	61	56	66	138	44	18	108
5:00-6:00	20	90	13	12	55	41	64	128	40	13	100

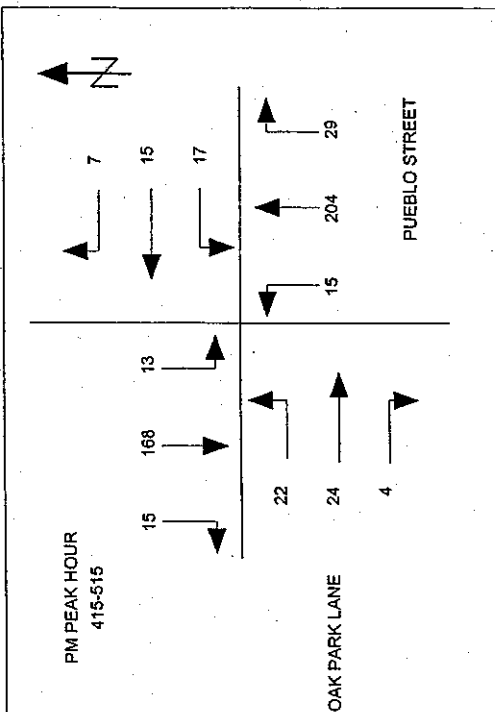


CLIENT: KAKU ASSOCIATES, INC  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: WEDNESDAY, JULY 30TH, 2003  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S PUEBLO STREET  
 E/W OAK PARK LANE

7:00 AM TO 9:00 AM													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
7:00-7:15	3	3	1	0	2	1	5	48	4	1	1	0	69
7:15-7:30	2	9	1	0	1	1	7	58	6	1	0	1	87
7:30-7:45	2	15	0	3	3	1	10	85	5	0	2	0	128
7:45-8:00	3	18	1	1	1	1	3	119	11	1	1	1	161
8:00-8:15	3	17	1	2	1	2	7	94	5	2	2	3	139
8:15-8:30	3	10	2	1	4	2	4	90	10	1	1	2	130
8:30-8:45	4	14	0	3	2	2	4	71	6	0	1	2	109
8:45-9:00	8	24	0	1	1	3	9	92	4	0	1	2	145
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
7:00-8:00	10	45	3	4	7	4	25	310	26	3	4	2	443
7:15-8:15	10	59	3	6	6	5	27	356	27	4	5	5	513
7:30-8:30	11	60	4	7	9	6	24	386	31	4	6	6	556
7:45-8:45	13	59	4	7	8	7	18	374	32	4	5	8	539
8:00-9:00	18	65	3	7	8	9	24	347	25	3	5	9	623




4:00 PM TO 6:00 PM													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
4:00-4:15	1	40	4	2	0	2	5	47	7	3	5	9	125
4:15-4:30	2	22	4	1	2	2	10	45	5	2	5	4	104
4:30-4:45	5	45	2	0	5	5	6	56	1	1	6	8	140
4:45-5:00	1	40	4	1	1	4	5	54	5	1	4	6	126
5:00-5:15	7	61	3	5	7	6	8	49	4	0	9	4	163
5:15-5:30	1	35	2	1	1	1	13	35	3	2	5	5	104
5:30-5:45	2	20	5	3	2	3	6	43	4	1	5	4	98
5:45-6:00	2	25	1	1	3	4	6	43	2	1	6	3	97
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
4:00-5:00	9	147	14	4	8	13	26	202	18	7	20	27	495
4:15-5:15	15	168	13	7	15	17	29	204	15	4	24	22	533
4:30-5:30	14	181	11	7	14	16	32	194	13	4	24	23	533
4:45-5:45	11	156	14	10	11	14	32	181	16	4	23	19	491
5:00-6:00	12	141	11	10	13	14	33	170	13	4	25	16	462



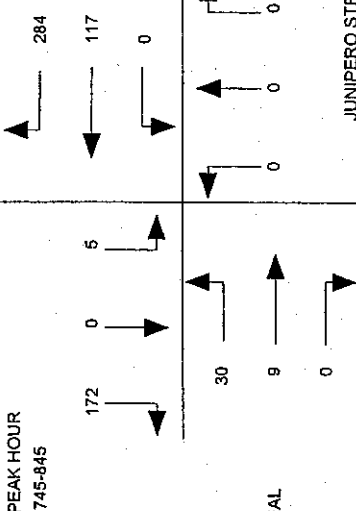
## Phone: (626) 564-1944 Fax: (626) 564-0969

CLIENT: KAKU ASSOCIATES, INC  
PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
DATE: TUESDAY, JULY 29TH, 2003  
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
INTERSECTION: N/S JUNIPERO STREET  
E/W CALLE REAL

15 MIN COUNTS															7:00 AM TO 8:00 AM														
PERIOD		1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	PERIOD		1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
SBRT	SBTH	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL		
700-715		32	0	1	54	21	0	0	0	0	0	2	5	115	700-715		32	0	1	54	21	0	0	0	0	2	5	115	
715-730		21	0	1	52	18	0	0	0	0	0	2	3	97	715-730		21	0	1	52	18	0	0	0	0	2	3	97	
730-745		35	0	0	52	26	0	0	0	0	0	4	5	122	730-745		35	0	0	52	26	0	0	0	0	4	5	122	
745-800		58	0	1	72	31	0	0	0	0	0	1	8	171	745-800		58	0	1	72	31	0	0	0	0	1	8	171	
800-815		39	0	1	68	31	0	0	0	0	0	4	7	150	800-815		39	0	1	68	31	0	0	0	0	4	7	150	
815-830		43	0	1	68	27	0	0	0	0	0	2	9	150	815-830		43	0	1	68	27	0	0	0	0	2	9	150	
830-845		32	0	2	76	28	0	0	0	0	0	2	6	146	830-845		32	0	2	76	28	0	0	0	0	2	6	146	
845-900		40	0	0	67	35	0	0	0	0	0	2	6	150	845-900		40	0	0	67	35	0	0	0	0	2	6	150	
HOURL TOTALS															HOURL TOTALS														
TIME		1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	TIME		1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
700-800		146	0	3	230	96	0	0	0	0	0	9	21	505	700-800		146	0	3	230	96	0	0	0	0	0	9	21	505
715-815		153	0	3	244	108	0	0	0	0	0	11	23	540	715-815		153	0	3	244	108	0	0	0	0	0	11	23	540
730-830		175	0	3	260	115	0	0	0	0	0	11	29	593	730-830		175	0	3	260	115	0	0	0	0	0	11	29	593
745-845		172	0	5	284	117	0	0	0	0	0	9	30	617	745-845		172	0	5	284	117	0	0	0	0	0	9	30	617
800-900		154	0	4	279	121	0	0	0	0	0	10	28	596	800-900		154	0	4	279	121	0	0	0	0	0	10	28	596



AM PEAK HOUR  
745-845



CALLE REAL

JUNIPERO STREET

4:00 PM TO 6:00 PM												
15 MIN COUNTS												
1	2	3	4	5	6	7	8	9	10	11	12	
SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
78	0	2	57	59	0	0	0	0	0	1	3	200
53	0	3	65	42	0	0	0	0	0	3	7	173
80	0	2	51	75	0	0	0	0	0	3	2	213
59	0	1	55	59	0	0	0	0	0	1	4	179
94	0	2	65	84	0	0	0	0	0	1	2	248
72	0	2	67	71	0	0	0	0	0	4	3	219
63	0	3	57	50	0	0	0	0	0	4	6	183
39	0	3	49	52	0	0	0	0	0	5	5	153
HOUR TOTALS												
1	2	3	4	5	6	7	8	9	10	11	12	
SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
270	0	8	228	235	0	0	0	0	0	8	16	765
286	0	8	236	260	0	0	0	0	0	8	15	813
305	0	7	238	289	0	0	0	0	0	9	11	859
288	0	8	244	284	0	0	0	0	0	10	15	829
268	0	10	238	257	0	0	0	0	0	14	16	803

PM PEAK HOUR  
430-530

305

0

7

238

289

0

11

9

0

0

0

0

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

→

→

→

→

→

←

←

←

←

←

←

→

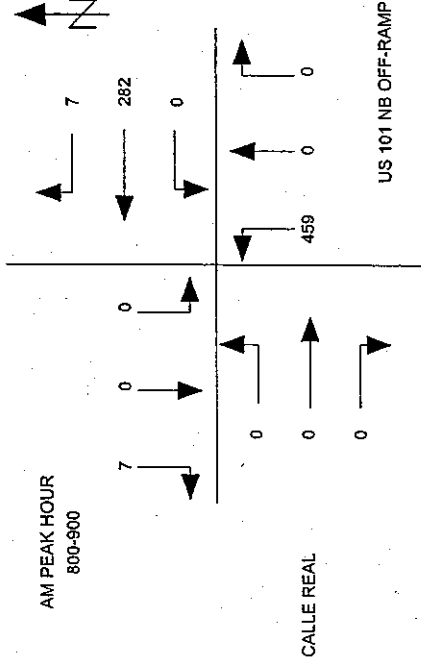
→</



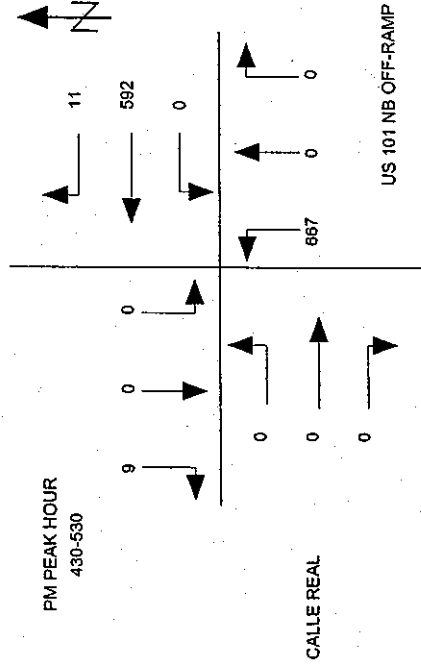
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: TUESDAY, JULY 29TH, 2003  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S US 101 NB OFF-RAMP  
 E/W CALLE REAL

7:00 AM TO 9:00 AM														
15 MIN COUNTS														
PERIOD	1	2	3	4	5	6	7	8	9	10	11	12	EBLT	TOTAL
700-715	3	0	0	2	48	0	0	0	81	0	0	0	0	134
715-730	1	0	0	1	45	0	0	0	73	0	0	0	0	120
730-745	2	0	0	1	66	0	0	0	98	0	0	0	0	167
745-800	6	0	0	1	98	0	0	0	96	0	0	0	0	201
800-815	0	0	0	2	66	0	0	0	98	0	0	0	0	166
815-830	2	0	0	1	71	0	0	0	118	0	0	0	0	192
830-845	3	0	0	1	62	0	0	0	116	0	0	0	0	182
845-900	2	0	0	3	83	0	0	0	127	0	0	0	0	215
HOUR TOTALS														
TIME	1	2	3	4	5	6	7	8	9	10	11	12	EBLT	TOTAL
700-800	12	0	0	5	257	0	0	0	348	0	0	0	0	622
715-815	9	0	0	5	275	0	0	0	365	0	0	0	0	654
730-830	10	0	0	5	301	0	0	0	410	0	0	0	0	726
745-845	11	0	0	5	297	0	0	0	428	0	0	0	0	741
800-900	7	0	0	7	282	0	0	0	459	0	0	0	0	755



4:00 PM TO 6:00 PM														
15 MIN COUNTS														
PERIOD	1	2	3	4	5	6	7	8	9	10	11	12	EBLT	TOTAL
400-415	2	0	0	3	132	0	0	0	159	0	0	0	0	296
415-430	4	0	0	2	101	0	0	0	167	0	0	0	0	274
430-445	3	0	0	1	161	0	0	0	164	0	0	0	0	329
445-500	1	0	0	4	127	0	0	0	158	0	0	0	0	290
500-515	4	0	0	4	172	0	0	0	181	0	0	0	0	361
515-530	1	0	0	2	132	0	0	0	164	0	0	0	0	298
530-545	4	0	0	4	119	0	0	0	169	0	0	0	0	296
545-600	1	0	0	4	90	0	0	0	137	0	0	0	0	232
HOUR TOTALS														
TIME	1	2	3	4	5	6	7	8	9	10	11	12	EBLT	TOTAL
400-500	10	0	0	10	521	0	0	0	648	0	0	0	0	1189
415-515	12	0	0	11	561	0	0	0	670	0	0	0	0	1254
430-530	9	0	0	11	592	0	0	0	667	0	0	0	0	1279
445-545	10	0	0	14	550	0	0	0	672	0	0	0	0	1246
500-600	10	0	0	14	513	0	0	0	651	0	0	0	0	1188



## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC  
PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
DATE: TUESDAY, JULY 29TH, 2003  
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
INTERSECTION: N/S LOS POSITAS ROAD  
E/W TALLANT ROAD

15 MIN COUNTS																7:00 AM TO 9:00 AM															
PERIOD		1	2	3	4	5	6	7	8	9	10	11	12	TOTAL																	
SBRT	SBTH	SBRT	SBTH	SBRT	WBRT	WBTH	WBRT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	EBRT	EBLT																
700-745		0	39	0	0	0	1	20	80	0	0	0	0	0	140																
745-800		3	95	2	2	0	2	17	89	3	2	0	0	0	215																
800-815		0	123	2	0	0	0	24	131	2	2	0	0	0	284																
815-830		2	152	3	2	0	2	36	204	0	0	0	1	0	402																
830-845		2	133	3	0	0	1	64	262	1	0	0	2	0	468																
845-900		1	133	5	1	0	0	32	198	2	0	2	1	0	375																
		3	161	7	2	0	5	27	188	1	0	0	0	0	394																
		3	193	3	3	0	2	10	130	0	0	0	0	0	344																
HOUR TOTALS																															
TIME		1	2	3	4	5	6	7	8	9	10	11	12	TOTAL																	
700-800		5	409	7	4	0	5	97	504	5	4	0	1	0	1041																
800-815		7	503	10	4	0	5	141	686	6	4	0	3	0	1369																
815-830		5	541	13	3	0	3	156	795	5	2	2	4	0	1529																
830-845		8	579	18	5	0	8	159	852	4	0	2	4	0	1639																
845-900		9	620	18	6	0	8	133	778	4	0	2	3	0	1581																

AM PEAK HOUR  
745-845

</

4:00 PM TO 6:00 PM														
PERIOD	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT		
400-415	1	195	3	2	0	3	31	250	5	1	0	1	492	
415-430	3	205	7	1	0	3	42	303	1	4	0	1	570	
430-445	7	204	3	3	0	20	277	2	2	2	0	2	520	
445-500	1	207	3	1	0	1	29	312	2	3	2	3	564	
500-515	1	235	2	1	0	3	35	283	3	0	0	0	563	
515-530	0	218	5	0	0	1	37	289	3	4	0	2	559	
530-545	1	224	4	1	0	0	28	322	3	5	0	5	593	
545-600	5	220	3	0	0	2	28	286	1	11	1	5	560	
HOURLY TOTALS														
TIME	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT		
400-500	12	811	16	7	0	7	122	1142	10	10	2	7	2146	
415-515	12	851	15	6	0	7	126	1175	8	9	2	6	2217	
430-530	9	864	13	5	0	5	121	1161	10	9	2	7	2206	
445-545	3	884	14	3	0	5	129	1208	11	12	2	10	2279	
500-600	7	807	14	2	0	6	126	1180	10	20	1	12	2275	

PM PEAK HOUR  
445-545

3

884

14

3

0

5

11

1206

129

N

TALLANT ROAD

10

2

12

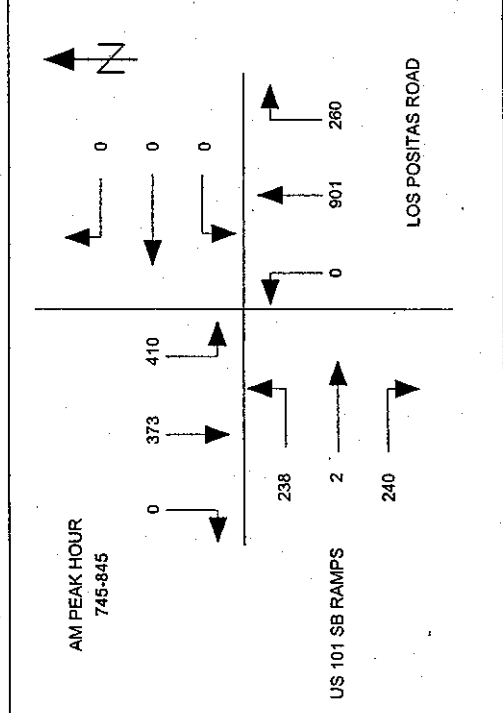
LOS POSITAS ROAD



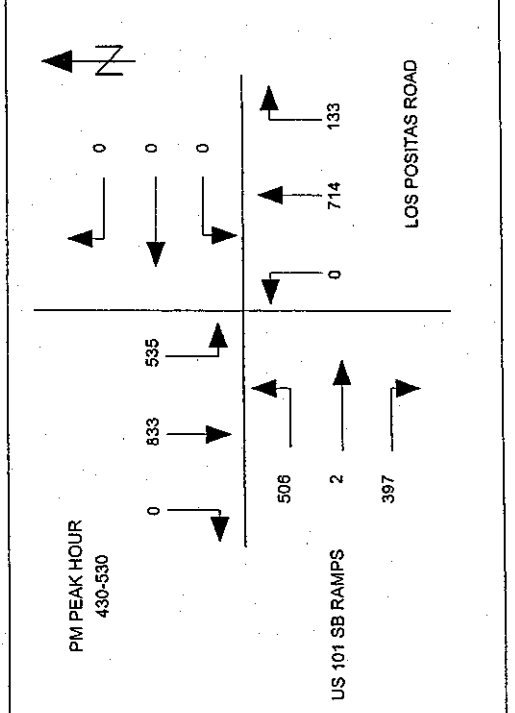
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: TUESDAY, JULY 29TH, 2003  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S LOS POSITAS ROAD  
 E/W US 101 SB RAMPS

15 MIN COUNTS											
PERIOD	1	2	3	4	5	6	7	8	9	10	TOTAL
7:00-7:15	0	41	42	0	0	0	38	83	0	18	285
7:15-7:30	0	65	62	0	0	0	40	117	0	24	341
7:30-7:45	0	77	99	0	0	0	59	169	0	40	504
7:45-8:00	0	87	121	0	0	0	59	322	0	67	691
8:00-8:15	0	81	97	0	0	0	59	205	0	52	568
8:15-8:30	0	102	90	0	0	0	75	181	0	60	579
8:30-8:45	0	103	102	0	0	0	67	193	0	61	586
8:45-9:00	0	112	122	0	0	0	65	211	0	98	690
HOUR TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	TOTAL
7:00-8:00	0	270	324	0	0	0	198	691	0	149	1801
7:15-8:15	0	310	379	0	0	0	217	813	0	183	2104
7:30-8:30	0	347	407	0	0	0	252	877	0	219	2342
7:45-8:45	0	373	410	0	0	0	260	901	0	240	2424
8:00-9:00	0	398	411	0	0	0	268	790	0	271	2423



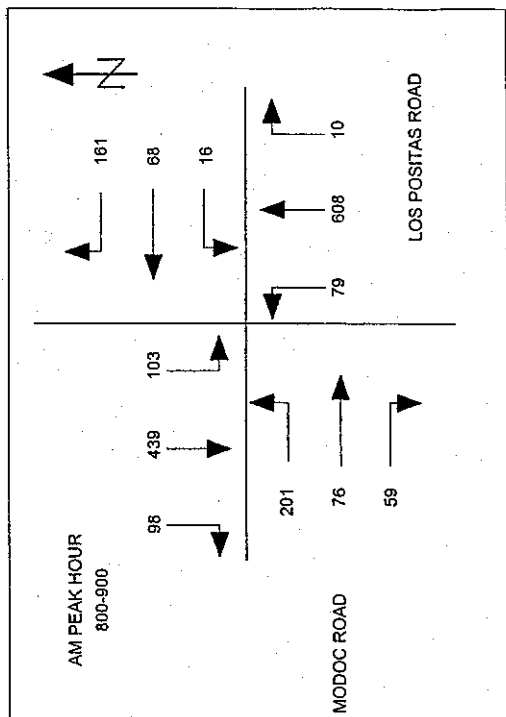
15 MIN COUNTS											
PERIOD	1	2	3	4	5	6	7	8	9	10	TOTAL
4:00-4:15	0	161	120	0	0	0	50	165	0	80	685
4:15-4:30	0	188	128	0	0	0	56	189	0	76	761
4:30-4:45	0	193	138	0	0	0	41	172	0	64	726
4:45-5:00	0	212	131	0	0	0	32	188	0	114	789
5:00-5:15	0	201	122	0	0	0	31	157	0	95	746
5:15-5:30	0	227	144	0	0	0	29	197	0	124	859
5:30-5:45	0	195	117	0	0	0	26	161	0	82	716
5:45-6:00	0	185	136	0	0	0	52	179	0	99	780
HOUR TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	TOTAL
4:00-5:00	0	754	517	0	0	0	179	714	0	334	2961
4:15-5:15	0	794	519	0	0	0	160	706	0	349	3022
4:30-5:30	0	833	535	0	0	0	133	714	0	397	3120
4:45-5:45	0	835	514	0	0	0	118	703	0	415	3110
5:00-6:00	0	808	519	0	0	0	138	694	0	400	3101



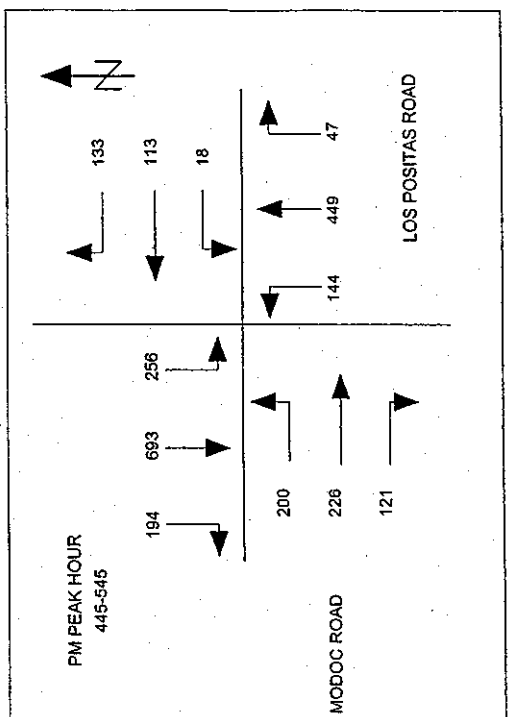
## Phone: (626) 564-1944 Fax: (626) 564-0969

MODOC ROAD

15 MIN. COUNTS													7:00 AM TO 9:00 AM												
PERIOD	1	2	3	4	5	6	7	8	9	10	11	12	PERIOD	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT		SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
700-715	15	39	17	23	17	5	0	64	9	7	3	26	700-715	15	39	17	23	17	5	0	64	9	7	3	26
715-730	15	44	20	31	16	2	0	88	15	7	8	29	715-730	15	44	20	31	16	2	0	88	15	7	8	29
730-745	28	67	19	43	21	3	5	132	17	13	10	50	730-745	28	67	19	43	21	3	5	132	17	13	10	50
745-800	26	94	20	75	29	3	4	179	23	12	28	57	745-800	26	94	20	75	29	3	4	179	23	12	28	57
800-815	18	86	22	44	23	4	2	150	21	10	21	45	800-815	18	86	22	44	23	4	2	150	21	10	21	45
815-830	29	110	17	44	15	6	3	157	21	15	16	46	815-830	29	110	17	44	15	6	3	157	21	15	16	46
830-845	23	103	21	29	14	3	1	153	16	18	13	47	830-845	23	103	21	29	14	3	1	153	16	18	13	47
845-900	28	140	43	44	16	3	4	148	21	16	26	63	845-900	28	140	43	44	16	3	4	148	21	16	26	63
HOUR TOTALS													HOUR TOTALS												
TIME	1	2	3	4	5	6	7	8	9	10	11	12	TIME	1	2	3	4	5	6	7	8	9	10	11	12
700-800	79	244	76	172	83	13	9	463	64	39	47	162	700-800	79	244	76	172	83	13	9	463	64	39	47	162
715-815	87	291	81	193	89	12	11	549	76	42	65	181	715-815	87	291	81	193	89	12	11	549	76	42	65	181
730-830	101	357	78	206	88	16	14	618	82	50	73	198	730-830	101	357	78	206	88	16	14	618	82	50	73	198
745-845	96	393	80	192	81	16	10	639	81	55	76	195	745-845	96	393	80	192	81	16	10	639	81	55	76	195
800-900	98	439	103	161	68	16	10	608	79	59	76	201	800-900	98	439	103	161	68	16	10	608	79	59	76	201



15 MIN COUNTS			4:00 PM TO 6:00 PM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT		
4:00-4:15	55	139	51	28	18	3	9	141	33	10	41	69	597	
4:15-4:30	55	109	68	32	31	2	10	150	22	21	35	45	578	
4:30-4:45	35	187	78	32	26	5	7	109	24	27	41	55	604	
4:45-5:00	47	148	59	34	32	4	15	135	50	25	51	47	647	
5:00-5:15	50	186	61	33	30	4	13	109	31	27	55	52	651	
5:15-5:30	56	199	77	39	32	4	8	94	28	34	64	44	679	
5:30-5:45	41	160	59	27	19	6	11	111	35	35	56	57	617	
5:45-6:00	39	164	61	22	26	5	2	107	16	23	36	53	554	
HOUR TOTALS														
TIME	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
4:00-5:00	192	563	252	126	107	14	41	535	129	83	188	215	2426	
4:15-5:15	187	610	262	131	119	15	45	503	127	103	182	199	2480	
4:30-5:30	188	700	273	138	120	17	43	447	133	113	211	198	2581	
4:45-5:45	194	693	256	133	113	18	47	449	144	121	226	200	2594	
5:00-6:00	186	709	258	121	107	19	34	421	110	119	211	206	2501	

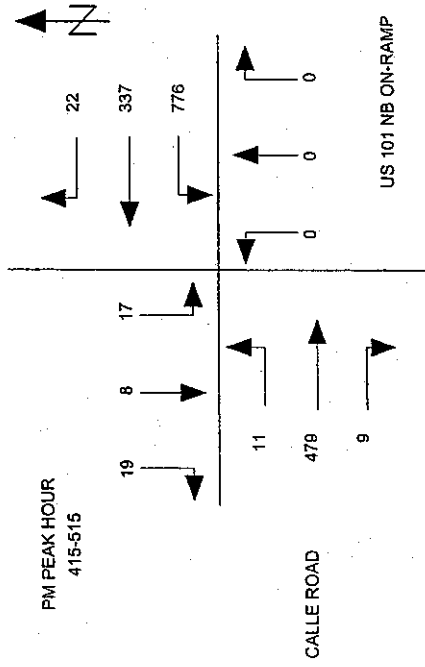
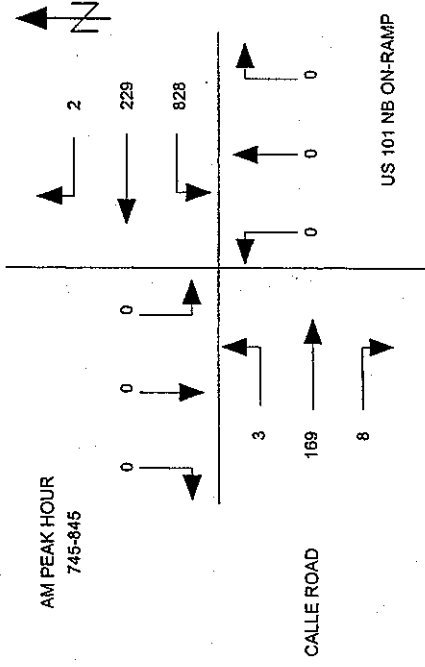


## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: TUESDAY, JULY 29TH, 2003  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S US 101 NB ON-RAMP  
 E/W CALLE ROAD

7:00 AM TO 9:00 AM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL
TOTAL	1	2	3	4	5	6	7	8	9	10	11
7:05-7:15	0	0	0	1	20	97	0	0	0	0	0
7:15-7:30	0	0	0	0	30	143	0	0	0	1	25
7:30-7:45	0	0	0	1	44	178	0	0	0	29	0
7:45-8:00	0	0	0	1	61	272	0	0	0	41	0
8:00-8:15	0	0	0	1	48	204	0	0	0	49	0
8:15-8:30	0	0	0	0	59	177	0	0	0	33	1
8:30-8:45	0	0	0	0	61	175	0	0	0	46	2
8:45-9:00	0	0	0	0	55	163	0	0	0	86	0
HOUR TOTALS	0	0	0	0	0	0	0	0	0	0	0
TIME	1	2	3	4	5	6	7	8	9	10	11
SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL
TOTAL	1	2	3	4	5	6	7	8	9	10	11
7:00-8:00	0	0	0	3	155	690	0	0	0	3	105
7:15-8:15	0	0	0	3	183	797	0	0	0	4	144
7:30-8:30	0	0	0	3	212	831	0	0	0	5	152
7:45-8:45	0	0	0	2	229	828	0	0	0	8	169
8:00-9:00	0	0	0	1	223	719	0	0	0	7	194
HOUR TOTALS	0	0	0	0	0	0	0	0	0	0	0

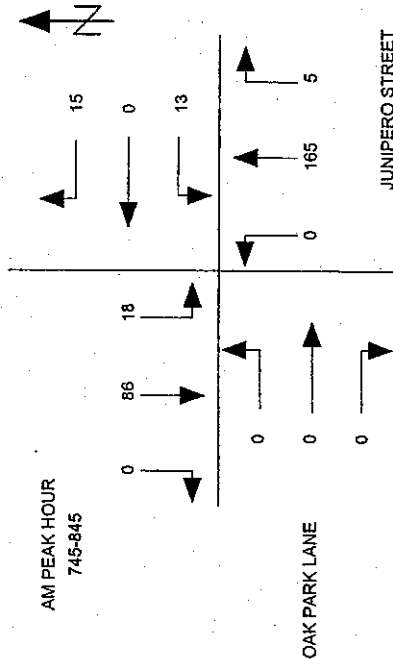
4:00 PM TO 6:00 PM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL
TOTAL	1	2	3	4	5	6	7	8	9	10	11
4:00-4:15	3	1	4	6	88	196	0	0	0	2	109
4:15-4:30	5	2	4	7	82	197	0	0	0	5	108
4:30-4:45	6	0	3	9	82	196	0	0	0	3	111
4:45-5:00	2	5	5	2	84	199	0	0	0	1	126
5:00-5:15	6	1	5	4	89	184	0	0	0	0	134
5:15-5:30	4	0	3	2	90	201	0	0	0	1	109
5:30-5:45	2	0	1	5	78	158	0	0	0	1	111
5:45-6:00	0	3	5	5	69	194	0	0	0	1	110
HOUR TOTALS	0	0	0	0	0	0	0	0	0	0	0
TIME	1	2	3	4	5	6	7	8	9	10	11
SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBTL	EBRT	EBTH	EBTL
TOTAL	1	2	3	4	5	6	7	8	9	10	11
4:00-5:00	16	8	16	24	336	788	0	0	0	11	454
4:15-5:15	19	8	17	22	337	776	0	0	0	9	479
4:30-5:30	18	6	16	17	345	780	0	0	0	5	480
4:45-5:45	14	6	14	13	341	740	0	0	0	3	480
5:00-6:00	12	4	14	18	326	735	0	0	0	3	484
HOUR TOTALS	0	0	0	0	0	0	0	0	0	0	0



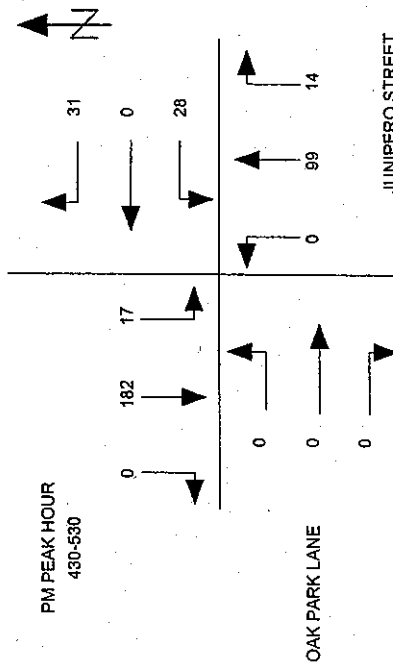
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: TUESDAY, JULY 29TH, 2003  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S JUNIPERO STREET  
 E/W OAK PARK LANE

15 MIN COUNTS											
7:00 AM TO 9:00 AM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH
	12	11	10	9	8	7	6	5	4	3	2
	EBLT	EBTH	EBLT	EBLT	EBTH	EBLT	EBTH	EBLT	EBTH	EBLT	EBTH
	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
700-715	0	9	1	3	0	2	0	9	0	0	0
715-730	0	12	1	4	0	3	1	12	0	0	0
730-745	0	16	1	5	0	3	0	26	0	0	0
745-800	0	29	2	4	0	5	1	54	0	0	0
800-815	0	13	6	3	0	2	2	39	0	0	0
815-830	0	25	6	5	0	4	1	40	0	0	0
830-845	0	19	4	3	0	2	1	32	0	0	0
845-900	0	16	2	6	0	4	2	38	0	0	0
HOUR TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH
	12	11	10	9	8	7	6	5	4	3	2
	EBLT	EBTH	EBLT	EBLT	EBTH	EBLT	EBTH	EBLT	EBTH	EBLT	EBTH
	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
700-800	0	66	5	16	0	13	2	101	0	0	0
700-815	0	70	10	16	0	13	4	131	0	0	0
730-830	0	83	15	17	0	14	4	159	0	0	0
745-845	0	86	18	15	0	13	5	165	0	0	0
800-900	0	73	18	17	0	12	6	149	0	0	0



15 MIN COUNTS											
4:00 PM TO 6:00 PM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH
	12	11	10	9	8	7	6	5	4	3	2
	EBLT	EBTH	EBLT	EBLT	EBTH	EBLT	EBTH	EBLT	EBTH	EBLT	EBTH
	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
400-415	0	40	2	5	0	6	3	20	0	0	0
415-430	0	31	3	7	0	2	7	31	0	0	0
430-445	0	44	5	8	0	7	1	27	0	0	0
445-500	0	37	3	6	0	5	2	20	0	0	0
500-515	0	58	7	12	0	9	5	27	0	0	0
515-530	0	43	2	5	0	7	6	25	0	0	0
530-545	0	32	4	1	0	7	2	24	0	0	0
545-600	0	22	3	3	0	5	2	25	0	0	0
HOUR TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH
	12	11	10	9	8	7	6	5	4	3	2
	EBLT	EBTH	EBLT	EBLT	EBTH	EBLT	EBTH	EBLT	EBTH	EBLT	EBTH
	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
400-500	0	152	13	26	0	20	13	98	0	0	0
415-515	0	170	18	33	0	23	15	105	0	0	0
430-530	0	182	17	31	0	28	14	99	0	0	0
445-545	0	170	16	24	0	28	15	96	0	0	0
500-600	0	155	16	21	0	28	15	101	0	0	0



## **APPENDIX D**

### **DRIVEWAY COUNT SHEETS**



## 24-HOUR ADT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 LOCATION: LOT 1 CASTILLO/JUNIPERO DRIVEWAY  
 DATE: TUESDAY JULY 29, 2003

DIRECTION:	ENTER				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	1	1	0	0	2
01:00	0	0	0	1	1
02:00	3	0	0	1	4
03:00	0	0	0	0	0
04:00	1	1	1	1	4
05:00	0	0	0	0	0
06:00	2	3	4	7	16
07:00	6	5	6	4	21
08:00	4	3	5	5	17
09:00	4	8	12	6	30
10:00	6	7	7	13	33
11:00	8	13	8	12	41
12:00	5	11	12	7	35
13:00	16	11	8	13	48
14:00	15	11	7	8	41
15:00	11	20	13	8	52
16:00	10	10	8	6	34
17:00	8	7	8	8	31
18:00	7	6	5	6	24
19:00	11	5	8	6	30
20:00	7	7	5	2	21
21:00	4	3	0	1	8
22:00	1	2	1	2	6
23:00	1	2	2	1	6
TOTAL					505
AM PEAK HOUR					
VOLUME					
PM PEAK HOUR					
VOLUME					

DIRECTION:	EXIT				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	2	1	2	2	7
01:00	0	0	2	6	8
02:00	1	0	1	0	2
03:00	1	0	0	0	1
04:00	0	0	0	0	0
05:00	0	0	2	0	2
06:00	0	1	2	1	4
07:00	6	1	4	4	15
08:00	2	10	4	0	16
09:00	2	10	14	10	36
10:00	8	6	9	4	27
11:00	2	8	6	11	27
12:00	4	2	6	10	22
13:00	12	2	12	18	44
14:00	16	12	12	14	54
15:00	20	23	15	13	71
16:00	13	12	11	7	43
17:00	12	14	14	10	50
18:00	4	8	8	6	26
19:00	6	0	4	2	12
20:00	9	6	0	8	23
21:00	0	0	4	3	7
22:00	6	2	5	2	15
23:00	2	2	2	1	7
TOTAL					519
AM PEAK HOUR					
VOLUME					
PM PEAK HOUR					
VOLUME					

TOTAL BI-DIRECTIONAL VOLUME

1024

**24-HOUR ADT COUNT SUMMARY**

CLIENT: KAKU ASSOCIATES  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 LOCATION: LOT 1 CASTILLO/JUNIPERO DRIVEWAY  
 DATE: WEDNESDAY JULY 30, 2003

DIRECTION:		ENTER				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
00:00	1	0	0	0	1	
01:00	0	0	0	0	0	
02:00	0	0	0	0	0	
03:00	0	0	0	0	0	
04:00	0	0	0	0	0	
05:00	3	1	0	3	7	
06:00	2	3	3	7	15	
07:00	6	3	4	13	26	
08:00	3	14	5	9	31	
09:00	8	8	6	15	37	
10:00	15	12	13	8	48	
11:00	6	8	7	9	30	
12:00	7	8	6	14	35	
13:00	8	14	8	7	37	
14:00	6	5	6	8	25	
15:00	12	3	5	3	23	
16:00	5	6	4	3	18	
17:00	5	8	3	4	20	
18:00	6	4	7	13	30	
19:00	6	8	3	5	22	
20:00	4	2	2	2	10	
21:00	0	2	3	1	6	
22:00	1	3	1	2	7	
23:00	2	0	0	0	2	
				TOTAL	430	
AM PEAK HOUR			0945-1045			
VOLUME			55			
PM PEAK HOUR			1245-1345			
VOLUME			44			

DIRECTION:		EXIT				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
00:00	6	0	0	0	6	
01:00	1	1	0	0	2	
02:00	0	0	0	2	2	
03:00	0	0	0	0	0	
04:00	0	0	2	0	2	
05:00	0	1	0	0	1	
06:00	2	0	0	6	8	
07:00	2	6	3	1	12	
08:00	4	16	12	9	41	
09:00	12	4	10	19	45	
10:00	12	12	20	13	57	
11:00	10	13	14	1	38	
12:00	12	9	16	13	50	
13:00	10	20	8	14	52	
14:00	14	15	6	8	43	
15:00	13	8	4	12	37	
16:00	6	3	4	8	21	
17:00	8	4	6	2	20	
18:00	10	8	16	4	38	
19:00	15	12	12	7	46	
20:00	7	10	9	7	33	
21:00	12	4	4	3	23	
22:00	4	2	0	4	10	
23:00	1	5	0	4	10	
				TOTAL	597	
AM PEAK HOUR			0945-1045			
VOLUME			63			
PM PEAK HOUR			1230-1330			
VOLUME			59			

TOTAL BI-DIRECTIONAL VOLUME

1027

**24-HOUR ADT COUNT SUMMARY**

CLIENT: KAKU ASSOCIATES  
 PROJECT: SANTA BARBARA COTTAGE  
 LOCATION: LOT 2 JUNIPER DRIVEWAY  
 DATE: TUESDAY JULY 29, 2003

DIRECTION:		ENTER				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
00:00	1	0	0	0	1	
01:00	0	0	0	0	0	
02:00	0	0	0	0	0	
03:00	0	0	0	0	0	
04:00	0	0	0	0	0	
05:00	0	0	0	0	0	
06:00	3	4	9	18	34	
07:00	4	2	2	2	10	
08:00	2	2	2	0	6	
09:00	4	3	0	2	9	
10:00	4	2	0	2	8	
11:00	2	0	0	0	2	
12:00	5	6	4	4	19	
13:00	2	2	10	1	15	
14:00	2	3	1	2	8	
15:00	8	6	6	2	22	
16:00	6	1	0	1	8	
17:00	0	0	0	0	0	
18:00	1	0	4	2	7	
19:00	0	2	2	0	4	
20:00	0	2	0	0	2	
21:00	0	2	0	0	2	
22:00	0	0	0	0	0	
23:00	0	0	0	0	0	
				TOTAL	157	
AM PEAK HOUR			0615-0715			
VOLUME			35			
PM PEAK HOUR			1445-1545			
VOLUME			22			

DIRECTION:		EXIT				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
00:00	0	0	0	1	1	
01:00	0	0	0	0	0	
02:00	0	0	0	0	0	
03:00	0	0	0	0	0	
04:00	0	0	0	0	0	
05:00	0	0	0	0	0	
06:00	0	0	2	0	2	
07:00	3	0	2	4	9	
08:00	2	1	8	4	15	
09:00	6	8	2	4	20	
10:00	2	1	2	4	9	
11:00	2	1	2	2	7	
12:00	4	8	6	6	24	
13:00	8	4	2	3	17	
14:00	2	1	4	2	9	
15:00	1	2	1	0	4	
16:00	8	12	4	2	26	
17:00	1	0	0	0	1	
18:00	0	0	0	0	0	
19:00	0	0	0	0	0	
20:00	0	0	0	0	0	
21:00	0	0	0	0	0	
22:00	0	0	0	0	0	
23:00	0	0	0	0	0	
				TOTAL	144	
AM PEAK HOUR			0830-0930			
VOLUME			26			
PM PEAK HOUR			1215-1315			
VOLUME			28			

TOTAL BI-DIRECTIONAL VOLUME

301

**24-HOUR ADT COUNT SUMMARY**

CLIENT: KAKU ASSOCIATES  
 PROJECT: SANTA BARBARA COTTAGE  
 LOCATION: LOT 2 JUNIPER DRIVEWAY  
 DATE: WEDNESDAY JULY 30, 2003

DIRECTION:		ENTER			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	2	0	1	0	3
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	0	0	0	0
04:00	0	0	2	6	8
05:00	0	0	0	4	4
06:00	2	2	10	14	28
07:00	6	4	2	4	16
08:00	8	2	3	2	15
09:00	0	2	4	4	10
10:00	8	7	4	2	21
11:00	2	4	0	4	10
12:00	0	3	8	0	11
13:00	0	2	0	0	2
14:00	2	4	2	2	10
15:00	7	2	13	9	31
16:00	5	0	1	0	6
17:00	3	0	4	0	7
18:00	0	2	0	0	2
19:00	0	0	0	0	0
20:00	0	0	0	0	0
21:00	0	0	0	0	0
22:00	0	0	0	0	0
23:00	2	0	0	0	2
TOTAL					186
AM PEAK HOUR		0630-0730			
VOLUME		34			
PM PEAK HOUR		1500-1600			
VOLUME		31			

DIRECTION:		EXIT			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	1	0	0	1
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	1	0	0	1
04:00	0	1	0	0	1
05:00	2	0	0	0	2
06:00	3	0	2	0	5
07:00	1	2	1	1	5
08:00	1	0	1	3	5
09:00	2	1	3	2	8
10:00	1	0	4	8	13
11:00	12	12	6	8	38
12:00	4	0	2	1	7
13:00	4	2	1	2	9
14:00	1	1	1	0	3
15:00	4	2	2	2	10
16:00	4	0	1	20	25
17:00	20	1	2	1	24
18:00	2	2	4	0	8
19:00	0	0	0	0	0
20:00	0	0	0	0	0
21:00	0	0	0	0	0
22:00	0	0	0	0	0
23:00	0	0	0	0	0
TOTAL					165
AM PEAK HOUR		1045-1145			
VOLUME		38			
PM PEAK HOUR		1645-1745			
VOLUME		43			

TOTAL BI-DIRECTIONAL VOLUME

351

**24-HOUR ADT COUNT SUMMARY**

CLIENT: KAKU ASSOCIATES  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 LOCATION: LOT 3 CASTILLO DRIVEWAY  
 DATE: TUESDAY JULY 29, 2003

DIRECTION:		ENTER			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	0	0	0	0
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	0	0	0	0
04:00	0	1	0	0	1
05:00	0	0	1	2	3
06:00	3	12	21	1	37
07:00	2	1	1	1	5
08:00	1	1	0	1	3
09:00	1	1	1	1	4
10:00	0	0	0	0	0
11:00	1	1	2	1	5
12:00	2	3	2	3	10
13:00	8	6	8	12	34
14:00	4	2	4	2	12
15:00	1	2	1	4	8
16:00	2	1	1	1	5
17:00	1	2	1	2	6
18:00	1	4	2	0	7
19:00	0	0	0	0	0
20:00	0	0	0	0	0
21:00	0	0	0	0	0
22:00	0	0	0	0	0
23:00	0	0	0	0	0
				TOTAL	140
AM PEAK HOUR			0545-0645		
VOLUME			38		
PM PEAK HOUR			1300-1400		
VOLUME			34		

DIRECTION:		EXIT			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	0	2	0	2
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	0	0	0	0
04:00	0	0	0	0	0
05:00	0	0	0	0	0
06:00	0	0	0	0	0
07:00	0	1	0	0	1
08:00	0	0	1	0	1
09:00	0	0	2	1	3
10:00	0	0	2	6	8
11:00	0	2	4	6	12
12:00	5	0	2	2	9
13:00	4	1	0	1	6
14:00	4	2	6	1	13
15:00	4	0	6	2	12
16:00	2	7	8	8	25
17:00	12	9	8	2	31
18:00	4	1	0	0	5
19:00	2	0	2	1	5
20:00	2	2	0	0	4
21:00	0	0	0	0	0
22:00	0	0	2	0	2
23:00	0	0	2	0	2
				TOTAL	141
AM PEAK HOUR			0000-0100		
VOLUME			12		
PM PEAK HOUR			1630-1730		
VOLUME			37		

TOTAL BI-DIRECTIONAL VOLUME

281

**24-HOUR ADT COUNT SUMMARY**

CLIENT: KAKU ASSOCIATES  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 LOCATION: LOT 3 CASTILLO  
 DRIVEWAY  
 DATE: WEDNESDAY JULY 30, 2003

DIRECTION:		ENTER			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	0	0	0	0
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	0	0	0	0
04:00	0	0	0	0	0
05:00	0	0	0	0	0
06:00	0	0	0	4	4
07:00	2	8	12	12	34
08:00	6	8	6	2	22
09:00	1	2	1	4	8
10:00	2	1	1	1	5
11:00	1	0	0	0	1
12:00	0	2	4	8	14
13:00	20	0	6	8	34
14:00	4	2	1	2	9
15:00	1	1	1	1	4
16:00	1	1	2	1	5
17:00	0	0	0	0	0
18:00	0	0	0	0	0
19:00	0	0	0	0	0
20:00	0	0	0	0	0
21:00	0	0	0	0	0
22:00	0	0	0	0	0
23:00	0	0	0	0	0
TOTAL					140
AM PEAK HOUR		0715-0815			
VOLUME		38			
PM PEAK HOUR		1215-1315			
VOLUME		34			

DIRECTION:		EXIT			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	2	0	0	2
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	0	0	0	0
04:00	0	0	0	0	0
05:00	0	0	0	0	0
06:00	1	0	0	0	1
07:00	0	0	0	0	0
08:00	1	3	1	4	9
09:00	0	1	2	2	5
10:00	0	2	4	2	8
11:00	4	1	2	5	12
12:00	4	4	4	0	12
13:00	3	2	1	0	6
14:00	2	2	2	0	6
15:00	4	5	2	3	14
16:00	4	3	10	4	21
17:00	21	7	4	4	36
18:00	1	2	2	2	7
19:00	3	0	2	1	6
20:00	1	2	3	2	8
21:00	2	0	0	0	2
22:00	0	0	0	0	0
23:00	1	0	0	0	1
TOTAL					156
AM PEAK HOUR		1015-1115			
VOLUME		12			
PM PEAK HOUR		1630-1730			
VOLUME		42			

TOTAL BI-DIRECTIONAL VOLUME

296

**24-HOUR ADT COUNT SUMMARY**

CLIENT: KAKU ASSOCIATES  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 LOCATION: LOT 4 KNAPP DRIVEWAY  
 DATE: TUESDAY JULY 29, 2003

DIRECTION:		ENTER			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	0	0	0	0
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	0	0	0	0
04:00	0	0	0	0	0
05:00	0	1	0	1	2
06:00	0	3	8	4	15
07:00	8	12	12	23	55
08:00	13	6	12	4	35
09:00	4	2	1	0	7
10:00	1	1	3	2	7
11:00	0	0	1	1	2
12:00	0	1	2	6	9
13:00	4	5	2	3	14
14:00	5	0	0	0	5
15:00	0	1	0	1	2
16:00	1	1	0	0	2
17:00	0	0	1	0	1
18:00	0	1	0	0	1
19:00	0	0	0	0	0
20:00	0	0	0	1	1
21:00	0	0	0	0	0
22:00	0	0	0	0	0
23:00	0	0	0	0	0
				TOTAL	158
AM PEAK HOUR			0715-0815		
VOLUME			60		
PM PEAK HOUR			1230-1330		
VOLUME			17		

DIRECTION:		EXIT			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	0	0	0	0
01:00	0	0	0	0	0
02:00	0	0	1	0	1
03:00	0	0	0	0	0
04:00	0	0	0	0	0
05:00	0	0	0	0	0
06:00	0	0	0	0	0
07:00	0	0	0	0	0
08:00	0	0	1	0	1
09:00	1	1	2	0	4
10:00	0	0	2	2	4
11:00	2	0	2	4	8
12:00	8	4	2	2	16
13:00	2	1	1	1	5
14:00	4	3	1	0	8
15:00	2	4	8	3	17
16:00	8	10	29	8	55
17:00	6	4	8	7	25
18:00	6	2	0	0	8
19:00	3	2	0	3	8
20:00	1	2	1	0	4
21:00	0	0	0	0	0
22:00	0	0	0	0	0
23:00	0	0	0	0	0
				TOTAL	164
AM PEAK HOUR			0145-0245		
VOLUME			8		
PM PEAK HOUR			1600-1700		
VOLUME			55		

TOTAL BI-DIRECTIONAL VOLUME

322

**24-HOUR ADT COUNT SUMMARY**

CLIENT: KAKU ASSOCIATES  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 LOCATION: LOT 4 KNAPP DRIVEWAY  
 DATE: WEDNESDAY JULY 30, 2003

DIRECTION:		ENTER			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	0	0	0	0
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	0	0	0	0
04:00	0	0	0	0	0
05:00	0	0	0	1	1
06:00	0	4	4	6	14
07:00	9	15	15	23	62
08:00	12	12	4	8	36
09:00	4	6	1	2	13
10:00	2	0	4	2	8
11:00	2	1	2	0	5
12:00	2	1	4	5	12
13:00	3	8	4	4	19
14:00	4	0	0	0	4
15:00	0	0	0	0	0
16:00	1	0	0	0	1
17:00	1	0	0	0	1
18:00	0	0	0	0	0
19:00	0	0	0	0	0
20:00	0	0	0	0	0
21:00	5	1	0	0	6
22:00	0	0	0	0	0
23:00	0	2	0	0	2
TOTAL					184
AM PEAK HOUR		0715-0815			
VOLUME		65			
PM PEAK HOUR		1230-1330			
VOLUME		20			

DIRECTION:		EXIT			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	0	0	0	0
01:00	0	0	0	0	0
02:00	0	0	1	0	1
03:00	0	0	0	0	0
04:00	0	0	0	0	0
05:00	0	0	0	0	0
06:00	0	0	0	0	0
07:00	0	0	1	0	1
08:00	0	0	0	1	1
09:00	3	2	1	2	8
10:00	2	1	2	4	9
11:00	2	2	4	11	19
12:00	4	4	5	8	21
13:00	2	2	4	0	8
14:00	2	2	2	0	6
15:00	4	12	8	5	29
16:00	7	7	20	6	40
17:00	8	6	6	4	24
18:00	8	4	1	1	14
19:00	2	0	2	0	4
20:00	0	0	1	0	1
21:00	2	0	0	0	2
22:00	0	0	0	0	0
23:00	0	0	0	0	0
TOTAL					188
AM PEAK HOUR		1100-1200			
VOLUME		19			
PM PEAK HOUR		1615-1715			
VOLUME		41			

TOTAL BI-DIRECTIONAL VOLUME

372



## 24-HOUR ADT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 LOCATION: LOT 6 PUEBLO DRIVEWAY  
 DATE: TUESDAY JULY 29, 2003

DIRECTION:		ENTER			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	0	0	0	0
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	0	0	0	0
04:00	0	0	0	0	0
05:00	0	0	0	0	0
06:00	0	0	7	4	11
07:00	6	3	4	2	15
08:00	1	0	1	4	6
09:00	2	0	0	2	4
10:00	0	0	0	0	0
11:00	0	2	0	0	2
12:00	0	0	1	6	7
13:00	0	0	0	0	0
14:00	0	2	0	0	2
15:00	0	0	0	0	0
16:00	0	0	0	0	0
17:00	0	0	0	0	0
18:00	0	0	0	0	0
19:00	0	0	2	0	2
20:00	0	0	0	0	0
21:00	0	0	0	0	0
22:00	0	0	0	0	0
23:00	0	0	0	0	0
TOTAL					49
AM PEAK HOUR		0630-0730			
VOLUME		20			
PM PEAK HOUR		1200-1300			
VOLUME		7			

DIRECTION:		EXIT			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	0	0	0	0
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	0	0	0	0
04:00	0	0	0	0	0
05:00	0	0	0	0	0
06:00	0	0	0	0	0
07:00	0	0	0	0	0
08:00	0	0	0	0	0
09:00	0	0	0	0	0
10:00	0	0	0	0	0
11:00	1	0	2	1	4
12:00	1	0	0	6	7
13:00	0	1	1	0	2
14:00	0	0	2	1	3
15:00	0	1	1	0	2
16:00	2	0	1	1	4
17:00	2	0	4	0	6
18:00	1	4	0	0	5
19:00	2	0	6	0	8
20:00	0	2	0	0	2
21:00	0	0	0	0	0
22:00	0	0	0	0	0
23:00	0	0	0	0	0
TOTAL					43
AM PEAK HOUR		0000-0100			
VOLUME		4			
PM PEAK HOUR		1730-1830			
VOLUME		9			

TOTAL BI-DIRECTIONAL VOLUME

92

**24-HOUR ADT COUNT SUMMARY**

CLIENT: KAKU ASSOCIATES  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 LOCATION: LOT 6 PUEBLO  
 DRIVEWAY  
 DATE: WEDNESDAY JULY 30, 2003

DIRECTION		ENTER			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	0	0	0	0
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	0	0	0	0
04:00	0	0	0	0	0
05:00	0	0	0	0	0
06:00	0	0	4	4	8
07:00	0	1	2	2	5
08:00	2	1	0	3	6
09:00	0	2	1	2	5
10:00	0	0	2	3	5
11:00	2	0	0	0	2
12:00	0	0	6	4	10
13:00	0	0	0	4	4
14:00	0	0	0	0	0
15:00	0	0	0	0	0
16:00	1	1	0	0	2
17:00	0	0	0	0	0
18:00	0	0	1	0	1
19:00	0	0	0	0	0
20:00	0	0	0	0	0
21:00	0	2	0	0	2
22:00	0	0	0	0	0
23:00	0	0	0	0	0
TOTAL					50
AM PEAK HOUR		0630-0730			
VOLUME		9			
PM PEAK HOUR		1200-1300			
VOLUME		10			

DIRECTION		EXIT			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	0	0	0	0
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	0	0	0	0
04:00	0	0	0	0	0
05:00	0	0	0	0	0
06:00	0	0	0	0	0
07:00	0	0	0	0	0
08:00	0	0	0	0	0
09:00	0	0	0	0	0
10:00	0	0	0	1	1
11:00	1	1	1	1	4
12:00	2	0	1	4	7
13:00	2	0	0	0	2
14:00	0	0	0	1	1
15:00	1	0	2	2	5
16:00	1	0	2	2	5
17:00	2	2	0	2	6
18:00	2	0	0	0	2
19:00	1	2	0	1	4
20:00	0	1	1	0	2
21:00	0	0	0	0	0
22:00	0	0	0	0	0
23:00	0	0	0	0	0
TOTAL					39
AM PEAK HOUR		1045-1145			
VOLUME		4			
PM PEAK HOUR		1630-1730			
VOLUME		8			

TOTAL BI-DIRECTIONAL VOLUME

89

## 24-HOUR ADT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 LOCATION: PARKING STRUCTUE ON PUEBLO STREET  
 BETWEEN OAK PARK LANE AND CASTILLO STREET  
 DATE: TUESDAY JULY 29, 2003

DIRECTION:	ENTER				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	0	0	0	0
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	1	0	0	1
04:00	2	2	0	1	5
05:00	0	16	14	24	54
06:00	23	24	60	68	175
07:00	46	26	36	58	166
08:00	44	26	19	18	107
09:00	8	14	10	13	45
10:00	4	4	12	14	34
11:00	3	7	8	6	24
12:00	8	7	10	12	37
13:00	5	14	7	10	36
14:00	6	18	10	16	50
15:00	2	1	0	6	9
16:00	4	0	2	1	7
17:00	0	0	2	8	10
18:00	2	3	12	12	29
19:00	2	2	2	2	8
20:00	4	0	4	2	10
21:00	0	2	1	2	5
22:00	2	1	1	4	8
23:00	0	0	1	0	1
TOTAL					821
AM PEAK HOUR					
VOLUME					
PM PEAK HOUR					
VOLUME					

DIRECTION:	EXIT				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	4	4	2	2	12
01:00	1	0	1	1	3
02:00	0	2	0	0	2
03:00	0	0	0	0	0
04:00	0	0	2	2	4
05:00	0	0	0	0	0
06:00	0	0	0	2	2
07:00	5	4	34	14	57
08:00	8	6	1	4	19
09:00	2	0	4	2	8
10:00	5	5	6	7	23
11:00	6	9	7	3	25
12:00	8	5	12	14	39
13:00	20	20	20	10	70
14:00	12	8	30	10	60
15:00	19	16	48	18	101
16:00	22	23	21	30	96
17:00	20	6	11	5	42
18:00	10	8	12	8	38
19:00	30	15	14	7	66
20:00	5	5	4	5	19
21:00	4	1	6	4	15
22:00	7	1	2	5	15
23:00	16	6	0	0	22
TOTAL					738
AM PEAK HOUR					
VOLUME					
PM PEAK HOUR					
VOLUME					

TOTAL BI-DIRECTIONAL VOLUME

1559

**24-HOUR ADT COUNT SUMMARY**

CLIENT: KAKU ASSOCIATES  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 LOCATION: PARKING STRUCTUE ON PUEBLO STREET  
 BETWEEN OAK PARK LANE AND CASTILLO STREET  
 DATE: WEDNESDAY JULY 30, 2003

DIRECTION:	ENTER				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	1	0	0	0	1
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	0	0	1	1
04:00	0	3	6	11	20
05:00	4	4	12	32	52
06:00	10	28	71	124	233
07:00	33	24	32	46	135
08:00	34	19	21	22	96
09:00	16	10	8	8	42
10:00	4	4	9	10	27
11:00	7	4	9	9	29
12:00	5	6	13	14	38
13:00	6	6	8	8	28
14:00	6	8	18	14	46
15:00	4	6	6	9	25
16:00	6	0	0	2	8
17:00	4	0	4	6	14
18:00	8	2	16	37	63
19:00	2	3	2	3	10
20:00	3	0	0	2	5
21:00	0	3	0	0	3
22:00	2	1	4	2	9
23:00	0	0	2	0	2
TOTAL					887
AM PEAK HOUR		0615-0715			
VOLUME		256			
PM PEAK HOUR		1800-1900			
VOLUME		63			

DIRECTION:	EXIT				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	6	2	0	2	10
01:00	1	0	0	1	2
02:00	3	1	0	0	4
03:00	0	1	0	0	1
04:00	2	0	2	1	5
05:00	0	0	2	0	2
06:00	0	0	1	2	3
07:00	5	6	22	9	42
08:00	8	8	6	2	24
09:00	2	1	3	2	8
10:00	2	1	3	10	16
11:00	4	6	4	12	26
12:00	6	8	14	7	35
13:00	7	10	18	9	44
14:00	6	3	22	9	40
15:00	21	26	34	22	103
16:00	21	23	32	20	96
17:00	20	16	17	18	71
18:00	15	9	18	7	49
19:00	8	14	28	30	80
20:00	8	7	10	4	29
21:00	2	3	7	1	13
22:00	2	2	3	4	11
23:00	2	6	12	6	26
TOTAL					740
AM PEAK HOUR		0730-0830			
VOLUME		47			
PM PEAK HOUR		1500-1600			
VOLUME		103			

TOTAL BI-DIRECTIONAL VOLUME

1627

## **APPENDIX E**

### **PEDESTRIAN COUNT SHEETS**

## PEDESTRIAN MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC.  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: THURSDAY, AUGUST 28, 2003  
 PERIOD: 10:00 A.M. TO 6:00 P.M.  
 LOCATION: CASTILLO STREET ENTRANCE  
 FROM PUEBLO STREET

15 MIN COUNTS			
PERIOD	PUEBLO STREET		
	IN	OUT	WBTH
1000-1015	5	4	2
1015-1030	10	9	1
1030-1045	4	4	1
1045-1100	5	8	1
1100-1115	7	7	3
1115-1130	8	6	3
1130-1145	5	9	2
1145-1200	14	6	5
1200-1215	16	1	4
1215-1230	3	2	5
1230-1245	8	8	2
1245-100	5	5	1
100-115	27	2	3
115-130	3	2	5
130-145	2	12	0
145-200	3	2	3
200-215	1	6	0
215-230	5	2	1
230-245	2	3	4
245-300	4	4	3
300-315	1	6	1
315-330	2	0	2
330-345	4	5	2
345-400	3	2	0
400-415	1	4	0
415-430	2	1	1
430-445	0	2	2
445-500	2	1	0
500-515	2	0	2
515-530	1	4	0
530-545	4	2	3
545-600	1	2	2

HOUR TOTALS			
TIME	PUEBLO STREET		
	IN	OUT	WBTH
1000-1100	25	24	5
1015-1115	28	26	6
1030-1130	25	24	8
1045-1145	30	25	9
1100-1200	28	34	13
1115-1215	22	43	14
1130-1230	18	38	16
1145-1245	17	41	16
1200-100	16	32	12
1215-115	17	43	11
1230-130	17	43	11
1245-145	21	37	9
100-200	18	35	11
115-215	22	9	8
130-230	22	11	4
145-245	13	11	8
200-300	15	12	8
215-315	15	12	9
230-330	13	9	10
245-345	15	11	8
300-400	13	10	5
315-415	11	10	4
330-430	12	10	3
345-445	9	6	3
400-500	8	5	3
415-515	4	6	5
430-530	7	5	4
445-545	7	9	5
500-600	8	8	7

# WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

## PEDESTRIAN MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES, INC.  
 PROJECT: SANTA BARBARA COTTAGE HOSPITAL  
 DATE: THURSDAY, AUGUST 28, 2003  
 PERIOD: 10:00 A.M. TO 6:00 P.M.  
 LOCATION: CASTILLO STREET ENTRANCE  
 FROM JUNIPERO STREET

15 MIN COUNTS			
PERIOD	JUNIPERO STREET		
	IN	OUT	EBTH
1000-1015	7	3	0
1015-1030	2	2	1
1030-1045	6	12	0
1045-1100	7	6	1
1100-1115	13	5	0
1115-1130	9	1	1
1130-1145	5	1	1
1145-1200	7	7	0
1200-1215	10	11	0
1215-1230	11	6	1
1230-1245	4	6	0
1245-100	6	6	1
100-115	1	12	0
115-130	4	3	0
130-145	6	7	0
145-200	4	0	0
200-215	5	1	1
215-230	3	10	0
230-245	3	4	2
245-300	22	2	1
300-315	2	6	1
315-330	3	5	1
330-345	9	1	1
345-400	8	2	0
400-415	3	0	1
415-430	0	1	2
430-445	3	2	2
445-500	1	0	1
500-515	2	0	0
515-530	1	3	0
530-545	0	1	0
545-600	1	6	0

HOUR TOTALS			
TIME	JUNIPERO STREET		
	IN	OUT	EBTH
1000-1100	22	23	2
1015-1115	28	25	2
1030-1130	35	24	2
1045-1145	34	13	3
1100-1200	34	14	2
1115-1215	31	20	2
1130-1230	33	25	2
1145-1245	32	30	1
1200-100	31	29	2
1215-115	22	30	2
1230-130	15	27	1
1245-145	17	28	1
100-200	15	22	0
115-215	19	11	1
130-230	18	18	1
145-245	15	15	3
200-300	33	17	4
215-315	30	22	4
230-330	30	17	5
245-345	36	14	4
300-400	22	14	3
315-415	23	8	3
330-430	20	4	4
345-445	14	5	5
400-500	7	3	6
415-515	6	3	5
430-530	7	5	3
445-545	4	4	1
500-600	4	10	0

**APPENDIX F**

**INTERSECTION LEVEL OF SERVICE WORKSHEETS**

**(under separate cover)**